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THE NATIONAL PRODUCT BEFORE AND AFTER THE WAR

This paper examines the latest National Income White Paper (Cmd. 7371) to see what light it throws on current economic problems. The techniques of analysis used are in the main similar to those used in the commentary on last year's White Paper,[1] which were in turn derived from the work of Mr. Kalecki, Professor Champernowne, and others in the same field.

1. The Size and Destination of the National Product

The Appendix describes in detail how allowance is made for price changes. Briefly the method used is to deflate the outlay on the items consumption, investment, defence and administration, separately, because the price indices available refer mainly to products grouped according to use. To these estimates exports at fixed prices are added and imports (f.o.b.) at fixed prices deducted (the latter being roughly allocated to various types of spending), in order to reach the value of home-produced goods and service.

The size and destination of the national product[2] excluding imports, of the United Kingdom at fixed 1947 national cost prices, i.e. what production would have cost if the factors of production had cost what they did on average in 1947, was approximately as shown below.[3]

Gross National Product by destination at 1947 *national cost price.*

	(£ '000 millions at 1947 national cost)			
	1938	1945	1946	1947
Destination of products				
Private Home Consumption	4.32	4.61	5.00	5.09
Home Capital Investment (gross)	1.47	0.59	1.27	1.76
Military	0.34	3.15	1.16	0.75
Other Government consumption	0.73	0.69	0.86	1.04
Exports (*a*) Goods	0.71	0.28	0.74	0.78
(*b*) Services*	1.00	0.25	0.31	0.21
Gross National Product	8.57	9.57	9.34	9.62

* Net of U.K. property income paid to foreigners.

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[1] Bulletin, Vol. 9, pp. 228 *et seq.*

[2] ' National ' here refers to what is made by United Kingdom citizens, not to what is made in the United Kingdom, since the income from British property overseas, but not the income on foreign property here, is included.

[3] These estimates are found by deducting actual imports from outlay. They refer (ignoring the time-lag between the arrival and use of imports) therefore to the current destination of previous production, not the intended destination of current output.

This table seems to show that total output was some 12 per cent above pre-war for the post-war years. One must add the customary caution about the decline in quality, and point out that a movement of labour from an industry with low value of output per head to one with a high per capita output involves an increase in ' output '.

It is interesting to note that though in real terms consumption was apparently much the same as pre-war, the production of consumers' goods and services for the home market was in 1946 and 1947 substantially above pre-war, offsetting the fall in real imports. The same point is true of exports. It is argued in the Appendix that on the basis of measurement adopted here, which implies comparing quantity movements by using 1947 prices (for each commodity) exports were no higher than before the war, although the official estimate, in terms of 1938 prices, indicates exports 8 per cent above pre-war.[1] This is not to say that the official estimate is ' wrong '. It is indeed perfectly correct, since a current-weighted index is used for calculating export prices (and hence the terms of trade).[2] But it is clear that because the official quantity index weights the exports in which our recovery has been quickest (such as machinery) by their relatively high pre-war prices, it shows the recovery of exports somewhat favourably, and that a technically equally correct comparison would show the export volume currently some 30 per cent, higher than pre-war, when the official figure is 40 per cent. On the other hand it is extremely likely that, as is shown by the table above, the unit import content of exports has fallen and hence that the net value added to exported products by United Kingdom factors of production is greater than the official index indicates.[3] Conversely the increase between 1946 and 1947 was probably due in part to increased imports.

We have so far been considering all paid services, including the rent on houses, etc. It gives somewhat more significance to the idea ' production ' if we work with the gross product of industry, found by deducting from the gross national product the pay of public servants, including the armed forces, public authorities' payments of interest and depreciation on non-industrial property,[4] the wages of domestic servants[5] and dwelling rents.[6] We can also more profitably discuss here the production of persons in the United Kingdom, excluding the oversea income on British-owned property and adding the income on foreign-owned property here (the latter being largely the profit made out of using British labour).

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[1] *Board of Trade Journal*, 7.2.48, p. 276, for example.

[2] It is also preferable to measure volume progress, as the official estimators do, by a fixed weighting system.

[3] This goes some way to explaining why the apparently great increase in the labour force working on exports has not led to a comparable increase in the *gross* value of exports.

[4] As calculated in the Appendix.

[5] BULLETIN, Vol. 9, p. 253. Estimates of Barna and inferences from the National Income White Paper implied 500 thousand domestic servants on average in 1946, with a mean income of £140 each. It is assumed here that there were 650 thousand in 1947, with a mean income of £150 p.a.

[6] Taken from the Table of Consumption expenditure at fixed national cost prices in the Appendix.

Gross Industrial Product of the United Kingdom at 1947 *National Cost.*

	(£ '000 millions)		
Destination	1938	1946	1947
Private Consumption	3.69	4.47	4.54
Investment	1.47	1.27	1.76
Military	0.20	0.55	0.34
Government consumption	0.07	0.06	0.20
Exports (*a*) Goods	0.71	0.74	0.78
(*b*) Services	0.64	0.24	0.14
Gross Industrial Product	6.78	7.33	7.76

There appears to have been an increase since pre-war in most types of output, classified according to use, except in exported services, this general increase having been made possible by an apparent 12 per cent overall increase in output.

The labour force is given below together with the implied output per head.

	1938	1946	1947
Gross National Product at 1947 prices (millions)	8,570	9,340	9,620
Employed Labour Force (millions)	19.4	20.6	21.0
Output per head at 1947 prices (£)	442	453	458
Gross Industrial Product at 1947 prices (£ millions)	6,780	7,330	7,760
Employed Labour Force in industry (millions)	16.7	16.5	17.4
' Industrial ' output per head at 1947 prices (£)	406	444	446

This indicates an annual ' Industrial ' productivity in 1947 about 10 per cent above that of 1938, with productivity per man hour somewhat higher because of shorter hours of work and longer holidays. Productivity in the sense implied here depends not only on more work per man in a given industry but also on the transfer from industries with a low output to those with a high output per head (at 1947 prices). The comparison also makes no allowance for the fall in quality. Unless however the fall in quality is believed equivalent to a concealed price rise of more than 10 per cent, a proposition it would be hard to defend, it seems that in 1947 overall productivity, in the sense used here, was above pre-war.

2. The Use of the National Product

The value of national outlay[1] is calculated in the Appendix.

Gross National Outlay at 1947 *national cost price*

	(£ '000 millions at 1947 national cost)				
	1938	1944	1945	1946	1947
Private consumption	6.06	5.06	5.37	5.92	6.16
Net Investment at home*	0.68	—0.83	—0.19	0.55	1.08
Government spending					
(*a*) Military	0.49	5.06	4.09	1.72	0.94
(*b*) Other	0.77	0.70	0.70	0.87	1.25
Net National Outlay	8.00	9.99	9.97	9.06	9.43
Maintenance of domestic capital*	0.94	0.85	0.84	0.85	0.87
Gross National Outlay	8.94	10.84	10.81	9.91	10.30

* Depreciation is adjusted to represent replacement cost, as described in the Appendix. The adjustment involves a corresponding change in net investment.

[1] ' Outlay ' used as last year to describe the total value of resources used.

Private consumption appeared in 1947 to be using real resources, measured at 1947 prices, slightly above pre-war ; net investment some 60 per cent above pre-war (gross investment using about 20 per cent more); military spending some 90 per cent above; other government consumption some 60 per cent more; and capital maintenance slightly more. Altogether our gross real outlay appeared to be about 15 per cent higher. All these estimates are in some degree subject to the qualification about quality changes, so that in effect the figures in the first column should be raised (except for maintenance of capital). This qualification should not make any essential difference to the comparison, particularly of changes in post-war figures.

The table shows that of some £3,200 millions at 1947 prices made available by demobilisation from 1945 to 1947, about £800 millions were used to increase private consumption, £1,300 millions to increase capital investment, £600 millions to increase current expenditure of the public authorities, and £500 millions are accounted for by a lower real outlay.

The progress of our real deficit in the balance of payments on current account has been as follows :

(£ '000 millions at 1947 national cost)

	1938	1945	1946	1947
Gross National Outlay	8.94	10.81	9.91	10.30
Gross National Product	8.57	9.57	9.34	9.62
Net loss of overseas assets	0.37	1.24	0.57	0.68
Imports (incl. invisible)	2.69	2.05	1.98	2.11
Exports and re-exports (incl. invisible) ...	2.32	0.81	1.41	1.43
Net loss of overseas assets	0.37	1.24	0.57	0.68
Net loss of overseas assets (at current prices)	0.07	0.88	0.38	0.68

This table shows that the actual deficit of £70 millions in 1938 would have been £370 millions if 1947 prices had applied, an increase of £300 millions. The remainder of the increase in our deficit, £310 millions, has been due to ' real ' as opposed to price factors, and is shown by the first half of the table above. We can, therefore, conclude this section by indicating the approximate size of the factors affecting the increase in our balance of payments deficit from £70 millions in 1938 to £680 millions in 1947 (increased production, of course, reducing the deficit).

The Causes of the increased National Deficit

	£ millions	
Deficit in 1938		70
Effect of changes in terms of trade (incl. invisibles)		+300
Effect of changes in national outlay since 1938 (at 1947 prices) ...		
—More Private Consumption	+100	
—More Investment (gross)	+330	
—More Military Spending	+450	
—More current Government spending	+480	
	+1,360	

Effect of increased national production since 1938 (at 1947 prices)		
—More production for home market	—1,780	
—More exports of goods	— 70	
—Less Exports of services*	+ 800	
	—1,050	
Net effect of changes in outlay and production since 1938 (at 1947 prices)		+310
Deficit in 1947		680

* This is to some extent a net item representing increased outlay on imports of services as well as reduced exports.

It appears that price changes and overall real changes contributed about equally to the deterioration in our balance of payments from 1938 to 1947.

(If we worked in 1938 prices throughout, the effect of price changes would appear larger relative to the effect of 'real' changes.)

3. The Distribution of the National Product

We can first show the changes in the distribution of pre-tax income by income group. The information so far published in various White Papers allows us to estimate the Pareto coefficient of inequality of income distribution for a number of years. This coefficient is 'α', found from fitting the line of (logarithmic) best fit, $N = K - \alpha \log I$, (where 'N' is the number of people with more than an income of 'I'), to the income distributions shown. The smaller α is, the greater the inequality. The values available for this parameter are :—

$\alpha_{1938}=1.60$ (Calculated from *Cmd.* 7371, Table 6).
$\alpha_{1942}=1.82$ (Calculated from *Cmd.* 6623, Table 25).
$\alpha_{1944}=1.86$ (Calculated from *Cmd.* 6784, Table 12).
$\alpha_{1945}=1.87$ (Calculated from *Cmd.* 7099, Table 10).
$\alpha_{1946}=1.91$ (Calculated from *Cmd.* 7371, Table 6).

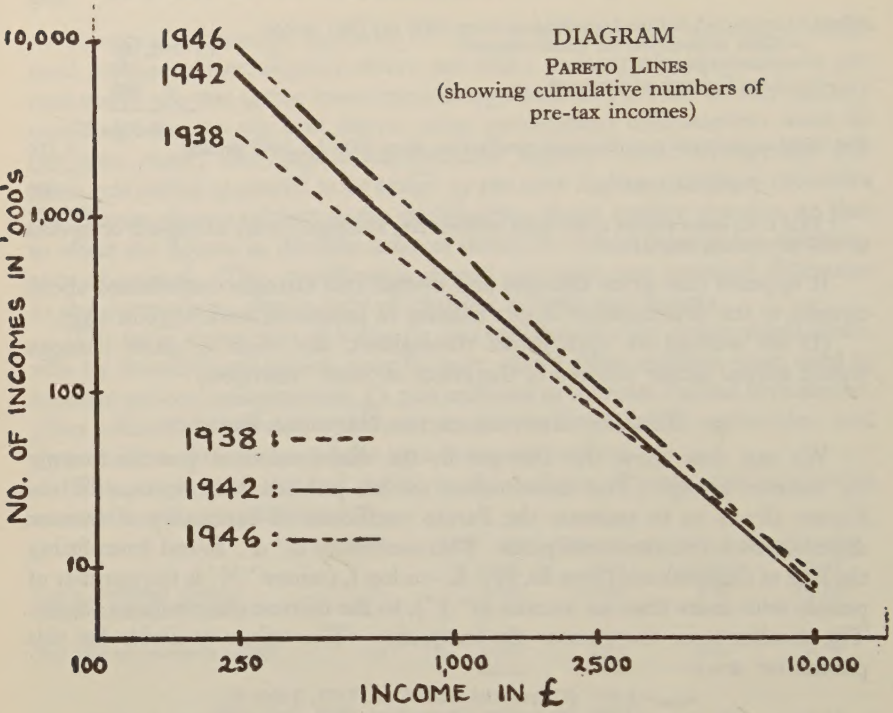
The trend towards greater equality is unmistakable. The main upward move of α appears to have taken place in the early years of the war, the tendency to equality being only slight in the later war years: α increasing by an average of .055 p.a. from 1938 to 1942, and .023 from 1942 to 1946. The Pareto lines for 1938, 1942 and 1946 are plotted on the diagram, the approach to a vertical slope representing the approach to equality of distribution.

It should be pointed out, however, that the Pareto coefficients do not take account of pre-tax undistributed profits, which have increased more sharply than other income (from £259 millions in 1938 to £758 millions in 1947), and the bulk of which belong in effect to the rich.[1] Moreover, 'black market' profits, inflated expense allowances, etc., are excluded; and capital gains are not included, not being 'income' on the definition currently accepted.

Still the movement towards equality is quite noticeable and appears to have brought the United Kingdom from having a relatively unequal to having a relatively equal distribution by international standards.[2]

[1] See Bulletin, Vol. 9. p. 243.

[2] Cf. values of 1.31 for Great Britain (1909), 1.70–1.76 for U.S.A. (1931–6), 1.66 for Japan (1930), 1.96 for U.S.S.R. (1924) and 2.25 for Australia (1934) quoted in Colin Clark, *Conditions of Economic Progress*, p. 425.



DIAGRAM

Pareto Lines

(showing cumulative numbers of pre-tax incomes)

Another way of examining income distribution is according to its source. The most important single measure here is the gross profit margin in industry. The most accurate figures refer to the whole of British industry as defined above (excluding property income from overseas, but including foreigners' income from this country).[1]

It appears from this table that the wage share of production increased in wartime (through overtime and high munitions wages), fell back sharply in 1945, but has since then been rising. This corresponds to the check and subsequent renewal of the rise in the Pareto coefficient noted above. The increased profits brought by the war have, however, been maintained, the noticeable fall being in the relative share going to salaries and rent. This may be due partly, however, to the reduction of employees in distribution, who are mostly paid by salary. We can make an attempt to correct for this

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[1] Wages in public service for 1946 and 1947 from *Cmd.* 7371, table 14 ; for 1938 from BULLETIN, Vol. IX, p. 253. For 1945 wages in public service assumed slightly higher than estimated in Cmd. 7099 (since the 1946 estimate there has been revised upwards). For 1944, wages in public service estimated at £202 millions. Salaries in public service found by deduction from total salaries and wages calculated as described in the Appendix. Wages in domestic service for 1938 and 1946 from BULLETIN *loc. cit.*, (as inferred from Cmd. 7099), for 1947 from Appendix ; assumed to be £50 and £60 millions respectively for 1944 and 1945 (cf. the inferred official estimate of £70 millions for 1946). Oversea property income and U.K. property income of foreigners for 1938, 1946 and 1947 from *Cmd.* 7324, the 1946–1947 trend continued back for 1944 and 1945.

*Division of Net Product of Industry**

	1938	1944	1945	1946	1947
			(£ millions)		
Wages	1,535	2,688	2,506	2,709	3,172
Salaries	940	1,065	1,130	1,252	1,328
Rent Profits and Interest ...	1,301	2,345	2,368	2,484	2,788
	3,776	6,098	6,004	6,445	7,288
			(Percentages)		
Wages	40.7	44.1	41.7	42.0	43.5
Salaries	24.9	17.5	18.8	19.4	18.2
Rent, Profits and Interest ...	34.4	38.5	39.4	38.5	38.3
	100	100	100	100	100

*Includes farmers' profits and professional earnings. Rent and profit coorrected so that depreciation is approximately allowed at replacement cost, as described in the Appendix. (Industrial rent is assumed to be proportionately affected by the resulting increase in offsets to total rent.)

last factor by deducting incomes generated in retail trade and the service industries.[1] We then have :—

Distribution of Product of non-service industry

	1938	1944	1945	1946	1947
1. Wages	1,357	2,477	2,268	2,404	2,845
2. Salaries, Profits, Interest and Rent (incl. Depreciation) ...	1,226	2,244	2,202	2,132	2,305
3. Total	2,583	4,721	4,470	4,536	5,150
Gross Profit Margin (2 as per cent. of 3)	47.5	47.5	49.3	47.0	44.8

This indicates that the rate of gross profit on employable labour was at the end of the war above pre-war, but has since declined and is now below pre-war. That the share of wages in the net product of industry was in 1945 above 1938 was due to the fall in non-wage incomes that is attributable to the decline in service industries rather than to a fall in the gross profit margin in employment. Both tables show a fall in relative wages from 1944 to 1945 and a subsequent rise.

The overall result of wage and price movements since 1938 seems to have been that both wages and net profits increased their share of the product, at the expense of salaries (and to some degree rent).

For a more general picture of the extent of income redistribution it is preferable to work in terms of total private incomes, irrespective of whether from production or not.

[1] Using the 30 per cent retail margin found by Plant and Fowler for department stores, and applying it to total sales in items 1, 2, 3, 6, 7, 8, 9, 10 and 15 in Table 20 of the White Paper to estimate the retail product, and adding the whole of items 13 and 14, less domestic service (already counted). This total product was deducted from the non-wage incomes above, and the estimated applicable depreciation was added. Domestic service here was deducted from total wages, and so were other wages in service industries. These were taken from *Cmd.* 7371 for 1947 and 1946 and *Cmd.* 7099 for 1945. It was assumed that wages formed the same proportion of service sales (other than domestic service) in 1944 as in 1945, and in 1938 as in 1947. These service wages were then added back into the non-wage incomes of non-service industry (since they have been in effect deducted with the rest of the product of service industries).

Distribution of pre-tax income

			(£ millions)		
	1938	1944	1945	1946	1947
Income from property and enterprise—					
Rent, interest from production and profits*	1,727	2,587	2,657	2,840	3,061
National Debt Interest	223	445	492	530	544
Total	1,950	3,032	3,149	3,370	3,605
Income from work—					
Salaries	1,110	1,465	1,530	1,630	1,720
Wages	1,735	2,840	2,780	3,095	3,530
Pay of H.M. Forces...	78	1,175	1,221	512	335
Total	2,923	5,480	5,531	5,237	5,585
Income from social right—					
Contributory benefits	124	101	104	133	274
Non-contributory benefits	105	145	155	197	156
War gratuities, pensions, etc.	41	98	231	548	254
Total	270	344	490	878	684
Grand total	5,143	8,856	9,170	9,485	9,874
			(*Percentages*)		
Income from property and enterprise—					
Rent, interest from production and profits*	33.6	29.2	29.0	29.9	31.0
National Debt Interest	4.3	5.0	5.4	5.6	5.5
Total	37.9	34.2	34.3	35.5	36.5
Income from work—					
Salaries	21.6	16.5	16.7	17.2	17.4
Wages	33.7	32.1	30.3	32.6	35.8
Pay of H.M. Forces	1.5	13.3	13.3	5.4	3.4
Total	56.8	61.9	60.3	55.2	56.6
Income from social right—					
Contributory benefits	2.4	1.1	1.1	1.4	2.8
Non-contributory benefits	2.0	1.6	1.7	2.1	1.6
War gratuities, pensions, etc.	0.8	1.1	2.5	5.8	2.6
Total	5.2	3.9	5.3	9.3	6.9
Grand Total	100.0	100.0	100.0	100.0	100.0

*With depreciation adjusted. Profits include farmers' profits and professional earnings.

The relative fall in salaries since 1938 is the most conspicuous feature of this table, the salary bill having risen by only just over 50 per cent, compared with a near doubling of most other forms of income. Since demobilisation was well advanced by 1947, this means that the average pre-tax salary is probably some two-thirds higher, so that on balance income from work takes no greater a share than pre-war, despite the increase in the share going to H.M. Forces and wage-earners. The increase in the percentage going to war pensions, etc., balanced the fall in property income. (Note that social security benefits as a whole had the same share, 4.4 per cent, as pre-war, the fall in unemployment balancing the rise in other benefits.)

The analysis so far has been in terms of the extent to which the sources of income are yielding different proportions of the country's income than before the war. For a true picture of the extent of the levelling of living standards we must consider in addition the effect of first tax and then price changes. Direct taxes attributable to each sort of income are shown in Table 24 of the White Paper. Deducting these from the categories of pre-tax income shown above we have[1] :—

Distribution of Post-Tax Income

	(£ millions)				
	1938	1944	1945	1946	1947
Rent, Interest and Profits	1,544	1,572	1,712	2,011	2,396
Salaries	1,054	1,165	1,197	1,328	1,435
Wages	1,682	2,537	2,463	2,823	3,261
H.M. Forces' Pay	77	1,151	1,189	496	313
Social income	270	344	490	878	684
	4,627	6,769	7,051	7,536	8,089
	(Percentages)				
Rent, Interest and Profits	33.4	23.2	24.3	26.7	29.6
Salaries	22.8	17.2	17.0	17.6	17.7
Wages	36.3	37.5	34.9	37.5	40.3
H.M. Forces' Pay	1.7	17.0	16.9	6.6	3.9
Social Income	5.8	5.1	6.9	11.6	8.5
	100.0	100.0	100.0	100.0	100.0

Here the effect of recent economic trends becomes much more marked. The rise in wage income was at first masked by the increase in H.M. Forces' pay (which was largely a substitute for wages). It is interesting to note, however, that since 1944 property income (post-tax) has also increased rapidly, going a long way to recovering its pre-war status.[2] Post-tax salaries have, however, conspicuously failed to recover, despite demobilisation and an easing of direct taxes on earned income (though 1948 should show some recovery of relative salaries, because of the recent Budget). Total post-tax salaries are now only about double 'social income', compared with some four times pre-war.

We can now examine the effect of price changes between 1938 and 1947 on post-tax incomes.

We have estimates of the share of savings offset against wages and salaries.[3] By deduction we have then consumption spending out of each type of income. A savings cost index will be the weighted average increase in the cost of investment goods and government services purchased by savings, the former having of course far the largest weight.[4] Consumption out of wages, together with social income (considered wholly consumed) can be deflated by the working-class cost-of-living index already calculated.[1] Consumption out of salaries can be deflated by the special index already calculated.[2] H.M. Forces' income in kind is deflated by the index provided in the White Paper, the remainder (small anyway in 1938) being deflated by the working-class price index. Now, the total increase in the price of 1938 consumption has also been calculated.[2] So the increase in the price of consumption out of property income can be calculated as a residual.[3] (This treatment amounts to deflating it by a weighted average price increase for the social classes to whom investment income is implicitly assumed to accrue, which is technically correct). On these assumptions, we can revalue 1938 incomes to show their value in 1947 prices, and compare them with actual incomes in 1947 from the same sources. This comparison takes fully into account the changes in original pre-tax income, the changes in the taxation structure and the changes in the price structure.

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[1] Assuming ' miscellaneous taxes ' (a very small negative item) are all attributable to property.

[2] The fact that this is partly due to increased undistributed profits is immaterial here.

[3] Kaldor, *Full Employment in a Free Society*, p. 356.

[4] Being weighted 4 times the latter. Investment cost index from the Appendix and the Government cost index as implied by deflation used in the Appendix. The combined index comes to 208 for 1947 (1938=100).

The results so obtained are as follows :—

Real post-tax incomes (in terms of 1947 *prices)*

	(£ millions)		*Percentage increase*
	1938	1947	1938 to 1947
Rent, Interest and Profits	2,811	2,396	— 15%
Salaries	1,814	1,435	— 21%
Wages	2,763	3,261	+ 18%
H.M. Forces' Pay	123	313	+154%
Social Income	436	684	+ 57%
Total	7,947	8,089	+ 2%

Wages, forces' pay and social income have between them gained some £900 millions of net real income (at 1947 prices), partly through a rise in total real net income (*i.e.* a rise in the national product slightly greater than the rise in the real value of Government revenue), but mainly at the expense of falls of the order of £400 millions each in net property income and net salaries.

This clearly implies an increase in the working-class share of private income. In order to obtain an estimate of the percentage share of the working-class in post-tax incomes let us assume that the 'working-class salaries' are no greater a share of total salaries than in 1938, and that the working-classes receive no larger a share of property income;[4] that the working-class share of forces' pay, war gratuities, pensions, etc., was one-half in 1947; that £50 millions of social security benefits in 1948 went to the middle-classes; that taxes on working-class salaries were the same proportion of total taxes on salaries in 1947 as they were estimated for 1937, and that taxes on working-class property income in 1948 were at the same rate as taxes on working-class salaries.[5] These assumptions which will certainly lead to an understatement of the rise in relative working-class income. We have nevertheless the following comparisons[1]:—

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[1] BULLETIN; Vol. 9, No. 5. [2] BULLETIN, Vol. 9, Nos. 7 and 8.

[3] It appears to be about 79 per cent.

[4] For estimate of 1938 working-class salaries, property income and social security benefits, see BULLETIN, Vol. 9, p. 187.

[5] See BULLETIN, Vol. 9, Nos. 7 and 8.

Working-class share of private income (percentages)

	1938	1947
Pre-tax	51	52
Post-tax	55	59

Even on these assumptions, the change is seen to be fairly substantial. Middle-class income per head (after deducting taxes) which in 1947 were about 3.65 times working-class income per head, compared to 4.3 times pre-war;[2] though on more favourable assumptions than we made above it would have been under 3.5 times in 1947. It is interesting to note that this comparison indicates, as others have done, that the greater equality of distribution is due rather more to fiscal changes, including subsidy policy, than to fundamental changes in the proportions going to different types of income. This implies that the redistribution could also be largely reversed by fiscal means (*e.g.* by lowering the standard rate of income tax, reducing food subsidies, etc.)

The total effect of all economic changes, in incomes, taxes and prices on the income structure of Britain can be indicated by recalculating net incomes in 1938 at 1947 prices (using the appropriate cost-of-living indices and the savings index), although this comparison still understates the change. We than have :—

(£ millions, at 1947 prices)	1938	1947	*Change*
Working-class real income (net of taxes)	4348	4735	+ 387
Middle-class real income (net of taxes)	3599	3354	— 245

The real net incomes of the working-class had risen over 9 per cent, and those of the middle-class had fallen over 7 per cent. These figures conceal widely divergent trends inside each class, but they indicate unmistakably the general tendency towards a more equalitarian society brought about by the war.

DUDLEY SEERS.

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[1] Using the income distribution tables above.

[2] Assuming the working-class remained a constant 84 per cent of the population.

APPENDIX

TECHNICAL NOTES ON THE METHODS OF CORRECTING THE NATIONAL INCOME ESTIMATES FOR PRICE CHANGES

(i) Estimating Consumption at Fixed Prices

A current-weighted index for the *market price* of consumers' goods and services is implied by a comparison of the estimates of the value of each year's consumption at current and at 1938 prices (Tables 20 and 21). The price relatives for each commodity group can also be found by this means, and these can be weighted by the expenditure on each group in 1938 to give an index with constant 1938 weights.[1] (The conditions under which this index is in fact likely to be inaccurate because of the implied assumption that weights inside the commodity groups are unchanged were examined in the July–August Bulletin.) These market price indices are as follows :—

	1938	1944	1945	1946	1947
With current weights	100	150	153	157	168
With 1938 weights	100	151	154	158	169

In order to estimate consumption at fixed national cost prices, it was necessary to construct a table showing the value of each commodity at fixed national cost prices. The method of construction, derived from Mr. Champernowne's paper on the 1945 National Income White Paper,[2] is in brief based on the assumption that such a table would give the same quantity relatives as Table 21 of the National Income White Paper, which estimates consumption at fixed market prices.

The validity of this assumption also depends on the heterogeneity of commodity groups. A quantity relative for a group calculated from the White Paper implicitly weights quantities of separate commodities within the group according to their 1938 market prices, whereas we would strictly want here weighting according to 1947 national cost prices. The error depends in fact on the correlation between quantity relatives for particular commodities and the differences in the relative prices of commodities in 1938 and 1947. Where, for example, increased relative prices are associated with high quantity increases and *vice versa*, as has probably happened inside the food group, the table will understate the value of consumers' goods at fixed national cost. Unallocated taxes (at 1947 level) were assumed a function of volume.

[1] For the calculation of this index the 1938-weighted index for national food prices as calculated for 1947 (1938=100) in the July-Aug. Bulletin was used because of the errors involved in assuming a constant distribution of expenditure on food. To obtain estimates of food price index numbers for intermediate years it was assumed that the Laspeyres index for any year was the same proportion of the Paasche as the Laspeyres was of the Paasche in 1947.

[2] Bulletin, Vol. 8, No. 5.

Table

National Cost of Consumers' Goods and Services revalued at 1947 *National Cost*

		1938	1944	1945	1946	1947
1	Food	2,207	1,920	1,948	2,128	2,241
2	Alcoholic Beverages	337	324	361	325	320
3	Tobacco	145	167	184	193	169
4	Rent, Rates, Water Charges	384	393	395	400	408
5	Fuel and Light	266	260	267	294	310
6	Durable Household Goods	437	112	153	276	336
7	Other Household Goods	71	53	53	57	58
8	Clothing	800	493	500	592	669
9	Books, Newspapers, etc.	77	88	93	107	119
10	Private Motoring	166	10	33	93	98
11	Travel	196	226	258	280	280
12	Communication Services	35	50	48	50	50
13	Entertainments	73	103	107	119	113
14	Other Services	695	494	531	655	691
15	Other Goods	311	199	211	269	297
16	Income in kind of Forces	27	246	236	126	63
17	Adjustment	—12	45	120	107	90
18	Less unallocated taxes	—149	—124	—131	—145	—151
	Total	6,064	5,058	5,367	5,924	6,161

From this table and Table 22 of the White Paper we get the following current-weighted index of national cost prices :—

1938	1944	1945	1946	1947
100	144	149	154	163

(ii) THE ESTIMATE OF GROSS INVESTMENT AT FIXED PRICES

A rough investment cost index can be constructed as follows. For plant and machinery we can use the export price index for machinery (from the Board of Trade Journal), and for vehicles (including ships, etc.) the vehicle export price index;[1] for stockbuilding, the manufactures and materials wholesale price index from the Board of Trade Journal; for property transfer costs the index for ' miscellaneous services ' implied in the National Income White Paper. For building costs there is no satisfactory index. An article in *The Economist*,[2] however, compares the cost of Council Houses before and after the war. It concludes that a house costing £335 before the war would cost about £1,350 to-day, of which, however, £400 is due to improved standards, and £110 to site preparation, leaving £840 net. This suggests an index number of approxmately 250, which is, of course, very rough, but is certainly fairly credible. It refers mainly, however, to houses completed in 1948, and an index number of 225 is suggested by figures given for the experience of 8 County Boroughs and 48 District Councils over a longer period. An index number of 235 will be used for 1947 (1938=100), which is 20 per cent above the index for building material prices.[3] It is assumed that this margin applied throughout the period, giving us the following index numbers for building costs :—

1938	1944	1945	1946	1947
100	177	182	200	235

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[1] 1944 and 1945 index numbers taken from *Accounts relating to the Trade of the United Kingdom* (H.M.S.O. 51–261–12–45).

[2] July 7th, 1948.

[3] Implying an index number of over 235 for unit labour costs.

The separate index numbers for different types of investment were then weighted by the distribution of gross capital formation as shown by Kaldor,[1] and the final index number for investment costs in 1947 was calculated as follows :—

	Weight	1947 Index (1938=100)
Building (incl. Public Utilities)	490	235
Plant and Machinery	120	197
Vehicles...	65	204
Stockbuilding	25	200
Investment costs	60	149
Total	760	218

The whole series obtained in this manner was :—

1938	1944	1945	1946	1947
100	173	176	189	218

These are market price indices (or their nearest equivalent), and they are used to deflate gross investment at market prices as estimated in the National Income White Paper.[2] In addition gross investment at fixed market prices was assumed to give the same quantity relatives as gross investment at fixed national cost price.[3] On these assumptions we have the following estimates :

(£ millions)	1938	1944	1945	1946	1947
Net investment (from Table 10)	320	—494	—11	530	1245
Depreciation allowances (from Table 13) ...	450	500	550	725	775
Gross investment at current market prices...	770	6*	539	1255	2020
Gross investment at 1947 market prices ...	1679	21	668	1447	2020
Gross investment at 1947 national cost prices	1616	20	643	1393	1944

* This is elsewhere (Table 23) given as the figure for net indirect taxes on gross investment alone. Gross investment at national cost prices is, by subtraction, £0 millions. Now gross fixed capital investment appears to have been of the order of £100 millions per annum during war years. For 1944, therefore, disinvestment in stocks muct have been of the same order of magnitude (unless there has been a mistake in estimation, as seems possible). The problem of deflation for this year therefore is treated as if there were £100 millions fixed capital investment and £94 millions disinvestment in stocks, each being separately deflated, by the investment goods and consumers' goods indices respectively.

(iii) The Estimate of True Depreciation

Depreciation is inadequately estimated in the National Income White Paper. It is calculated partly from the allowances for depreciation permitted by the Inland Revenue Department, these allowances being based on the *original* cost of the capital goods concerned; and partly from the maintenance expenditures of the public authorities. Now depreciation as an offset against gross national income must be measured in *current replacement* cost if net national income is to be the country's production over and above what is required to make good wear-and-tear.[1] At a time of stable prices, the difference is not very great, but recent estimates of depreciation are falling short, because of the steeply rising cost of capital goods.[2]

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[1] Appendix C to Lord Beveridge's *Full Employment in a Free Society*. (p. 360).

[2] Strictly the post-war years should each be deflated by indices constructed from each year's own weights, but no information is available on the distribution of investment in these years, and the change in distribution would not be very great.

[3] This is equivalent to assuming that if 10 per cent less volume of investment were made in any year than in 1947, the 1947 net indirect taxes attributable to this output would also be 10 per cent less.

Only very approximate estimates can be made of true depreciation. One valuable attempt is made by Prest in a recent number of the *Economic Journal.*[3] For the estimates given there a fixed life is assumed for plant and machinery, and for buildings, and price series are constructed for original and replacement costs. This method does not, however, appear to allow for war-time disinvestment or for losses by enemy action, and it therefore perhaps exaggerates post-war depreciation.

An alternative approach is as follows. Let us assume, as Prest does, that the 1938 depreciation allowances of £450 millions given in the National Income White Papers are correct. Total fixed capital, including vehicles used by industry, may have been about £15,000 millions in 1938[4], giving an average depreciation rate of 3 per cent. A rough calculation from the National Income White Paper indicates that disinvestment from mid-1938 to mid-1944 was of the order of £1,000 millions, at 1938 prices. Some of this, however, is balanced by war capital investment which has peacetime uses. In addition, total damage to property through enemy action is officially estimated at £860 millions in 1938 prices.[5] By mid-1944, therefore, total fixed capital was worth rather over £1,000 millions less than in 1938. Probably machinery, which has a high rate of depreciation, was a rather high proportion of this fall, so that real depreciation would have fallen in slightly greater proportion than fixed capital.[6] Let us estimate this fall in depreciation at £45 millions in 1938 prices, or 10 per cent of 1938 depreciation. If we make similar adjustments for subsequent decreases and increases in capital equipment we have the following estimates of depreciation in 1938 prices :—

(£ millions)	1938	1944	1945	1946	1947
	450	405	400	405	415

To give these depreciation allowances at current prices we correct for the change in replacement cost by assuming, as Prest does, that half of depreciation refers to building (for which the building cost index given above is used) and half to industrial equipment (weighting the ' plant and machinery ' and ' vehicles ' indices described above in the ratio 3 to 1).

On these assumptions true depreciation is estimated as follows, with the estimates of Prest and the White Paper for comparison :—

(£ millions)	*Own estimates*	*Estimates of Prest*	*Estimates in Cmd.* 7371
1938	450	450	450
1944	713	910	500
1945	710	903	550
1946	763	1,080	725
1947	900*		775

* After these calculations were made, a reference by Manning Dacey in the *Lloyd's Bank Review* recalled that the *Economic Survey* for 1948 had estimated ' the general wear and tear of capital at current costs of construction ' also at £900 millions.

It is not pretended that these estimates are any more than very approximate. They may, however, be nearer the truth than either of the other sets of estimates.

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[1] If depreciation is measured in this way, profits are somewhat reduced, since they will also be net of the cost of replacement of capital goods. This method implies in fact treating the increase in reserves to cover replacement of equipment as a capital profit. Such increases in ' book ' wealth will not be included in ' profits ' on this definition, which gives, so to speak, those with capital an ' economic right ' to the preservation intact of *real* capital, as opposed to *financial* capital. It does not necessarily follow that they should also have a legal right to higher depreciation allowance which is a political rather than an economic problem (depending on whether one wishes to preserve the present distribution of real capital intact).

[2] In addition legal depreciation allowances are a function of changes in rates of depreciation allowed and of administrative practice. There have been important changes recently in this respect.

[3] Vol. LVIII, No. 229, p. 55.

[4] Hicks. *Social Framework*, pp. 103–4, summarising Campion's estimates for 1932–4.

[5] *Statistical Material presented during the Washington Negotiations.* Cmd. 6707, p. 13.

[6] Also, as Dr. Balogh has pointed out to me, the absence of maintenance may cause cumulative depreciation.

Expressed at fixed prices true depreciation is therefore :—

(£ millions)	1938	1944	1945	1946	1947
At 1947 market prices...	976	878	868	878	900
At 1947 national cost prices ...	939	845	835	845	866

(iv) CORRECTION TO NET NATIONAL INCOME AND INVESTMENT

It is commonly considered an economic truism by commentators on the national income estimates that an adjustment to depreciation allowances implies equivalent adjustments to profits (and rent), and to net national income. This is not strictly correct, however, given the treatment of national income by the official estimators. It is true only for depreciation chargeable as a cost against rent or profits. It can be seen from Appendix V of *Cmd.* 7099 that only part of depreciation is treated in this way (the part included in Table A). An upward adjustment in depreciation of public property means a notional increase in Government current expenditure on goods and services (as is shown by a comparison of Table D of Appendix V with public authority expenditure in Tables 10 and 17 of the same White Paper). This increase offsets the fall in net investment, and there is no reduction of net national income. What does fall instead is the notional Government surplus.

In real terms what this treatment implies is that when we decide that public fixed capital is depreciating faster than previously thought, we conclude that the Government is buying more service than previously thought; but when we decide depreciation of private property was inadequate we conclude that property income was less than had been believed. The problem really arises because Government accounts omit the imputed rent receipts from Government property, which could offset increased depreciation. An addition to public property does not increase the national income after it comes into service, and hence increased depreciation on public property does not reduce the national income.[1]

Let us assume that the estimate of £110 millions in 1938 correctly stated the depreciation of public property and that it was about one-quarter of total true depreciation throughout. The official estimates of national income and expenditure can then be corrected for the adjustment to depreciation.

(£ millions)

	1944	1945	1946	1947
Rent, Profits and Interest ...	2690	2728	2893	3148
Other factor income ...	5480	5531	5237	5585
Net National Income ...	8170	8259	8130	8733

	1944	1945	1946	1947
Personal Con-Consumption	5544	5996	6739	7421
Govt. Consumption	5306	4559	2541	2256
Net investment at home ...	–707	–171	492	1120
Net investment abroad ...	–659	–875	–380	–675
Less net indirect taxes	–1314	–1250	–1262	–1389
Net National Expenditure ...	8170	8259	8130	8733

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[1] It is of course true that the national income estimates treat the value of maintenance on public property as an approximation to the value of depreciation, and that increased maintenance would, therefore, mean both increased depreciation and increased gross investment leaving net investment unaffected. This would actually raise the estimated net national income *pro tanto* (because of the increase in Government consumption). It is assumed here, however, that depreciation is increased because of its inadequacy to cover replacement costs, not because of an increase in maintenance work. So this point does not arise.

Depreciation of private property for later years is hardly affected by the treatment above. This is how the official and my estimates compare :—

(£ millions)	1944	1945	1946	1947
Official* estimates	395	437	602	638
Own estimates	535	533	572	675

* Total depreciation (Table 13) less depreciation of public property (Tables 15 and 18).

So property income and net national income are not much altered for 1946 and 1947.[1] (It is precisely Government property which was apparently inadequately depreciated for these years.) It was assumed that the extra depreciation on private property could be offset against rent and profits equally.

Net investment at 1947 national cost prices (found by deducting depreciation at 1947 prices from gross investment at 1947 prices) is :—

(£ millions)	1938	1944	1945	1946	1947
	677	—827	—192	548	1,078

(v) ESTIMATE OF CURRENT GOVERNMENT EXPENDITURE AT FIXED PRICES

The division of 1938 Government expenditure was given in the previous White Paper as follows :—[2]

	(£ millions at national cost)
Purchases of goods and services	279
Depreciation	110
Wages and Salaries	328
Interest on local debt	50
Total	767

To revalue these at 1947 prices, each type of expenditure was separately deflated. Purchases were assumed to be subject to the consumers' goods price index given above. Depreciation was multiplied by the fixed capital cost index already used. Interest on local debt was assumed constant.

For wages and salaries it was assumed that annual productivity per Government employee remained constant. There were about 400,000 in the armed forces in 1938.[3] On average there were 1,287 thousand in 1947,[4] who received £335 millions in pay and allowances. (Table 10.) To 'buy' the armed forces of 1938 at 1947 income per head would have cost £115 millions.[5] For administrative employees the following estimates can be made :—

	1938		1947	
	No. ('000)	*Pay* (*£ millions*)	*No.* ('000)	*Pay* (*£ millions*)
Central Government	200	60*	495†	257*
Local Government (incl. national insurance Administration)	850	190‡	1,115†	395‖
	1,050§	250	1,610	652

*Wages and Salaries paid by Central Government (Table 14, line 26a) less pay of H.M. Forces (Table 10). †Annual Average adjusted for insurance administration.

‡ Total wages and salaries paid by public authorities (*Cmd.* 7099, App. V, Table D, line 32a) less wages and salaries paid by Central Government.

‖ Total current expenditure less depreciation allowances, interest on debt, and purchases of goods and services estimated at £20 millions (cf. £9 millions which can be inferred as the corresponding purchases in 1938).

§ The distribution of administrative manpower at June 1939 was 283 thousand central government (excluding Post Office and industrial employees, but including civil defence, police and insurance administration), 846 thousand local government (*Monthly Digest of Statistics*). This is assumed to imply the distribution shown above for the average of 1938. Non-industrial central government staff, less Post Office workers, and excluding police and civil defence, are shown as 173 thousand for April 1938 by *Annual Abstract of Statistics*, No. 84.

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[1] Cf. estimates of Prest which assume that increased depreciation allowances mean an equivalent fall in property income and net national income.

[Footnotes continued p. 326

If we assume that each section had the 1947 income per head in 1938, and that productivity per head was unchanged over this period, we have the following estimates of the 1947 national cost :*

(£ millions)	1938	1947
Central Government	105	257
Local Govt. (including national insurance administration)	301	395
	405	652

* These calculations imply an increase in average income per head of 73 per cent in the central government service and 58 per cent in the local government service.

Similar estimates were made for 1944, 1945 and 1946 giving the following totals of current Government expenditure at fixed prices :—

(£ millions at 1947 national cost)	1938	1944	1945	1946	1947
Purchases of goods and services	456	3,505	2,587	1,178	941
Depreciation	233	210	207	210	215
Wages and Salaries :					
(*a*) H.M. Forces	115	1,293	1,282	525	335
(*b*) Administrative	405	708	663	632	652
Interest on local debt	50	50	50	50	50
Total	1,259	5,766	4,789	2,595	2,193

(vi) DIVISION OF CURRENT GOVERNMENT EXPENDITURE BETWEEN MILITARY AND OTHER

The latest White Paper has not reinstated the estimates of military expenditure which were dropped from the national income estimates last year. It can hardly be maintained that the total amount spent on defence is a matter of no interest. The most important use of the national income estimates is to permit the major economic problems of the allocation of the country's resources between different purposes to be discussed in quantitative terms. One can, however, make approximate estimates for calendar years by fitting together information from several White Papers. These estimates depend on the fact that the greater part of purchases of goods and services refer to defence. From the 1946 White Paper we have the following estimates of the division of expenditure in 1938 :—[6]

	(£ millions at market prices)
Military expenditure	321
Other current Government spending	468
Total	789

Assuming that some £12 millions must be allowed for the wages and salaries of (about) 43 thousand civilian employees in the service departments on average in 1938, we can reconstruct the division of 1938 military and other government expenditure on goods and services as follows :—

[2] Cmd. 7099, Appendix V, Table D. After deduction of employers' insurance contributions, the remainder of indirect taxes were offset against purchases.

[3] Barna, *L.C.E.S. Bulletin*, Vol. XXV, No. II, p. 40.

[4] *Monthly Digest of Statistics*.

[5] A rise of 47 per cent in income per head.

[6] Where adjustments have been made to the estimates of total public spending in *Cmd.* 7371, it is assumed that it is the estimate of military expenditure which has been revised for the latest White Paper.

	(£ millions at market prices) *Military*	 *Other Gov. Exp.*
Purchases of goods and services	231	67
H.M. Forces' Pay	78	—
Wages and Salaries (incl. insurance)	12	241
Depreciation*	—	110
Interest	—	50
	321	468

* Officially estimated depreciation, not ' true ' depreciation.

For 1944 and 1945 similar calculations cannot be made because, working on the same assumptions, the military purchases of goods and services come to slightly more than the total purchases. This means that more wages and salaries paid by the public authorities must have been debited against military spending than those paid to the staff of the service departments. However, this does indicate that only a very small part of these purchases were for administrative purposes.

For 1947 we can deduce the following distribution of spending :—

	(£ millions at market prices) *Military*	 *Administrative*
Purchases of goods and services	976	
H.M. Forces' pay	335	—
Wages and Salaries (incl. insurance)	75†	595‡
Depreciation*	—	137
Interest	—	50

* Officially estimated depreciation, not 'true' depreciation.

† Service and supply departments. ‡ Includes an assumed £18 millions insurance contributions (same as shown for 1946 by *Cmd.* 7099).

The Economic Survey for 1947 forecast in February 1947, that military spending would be 11 per cent of the national income, which implies an estimate of £964 millions. Exchequer issues for defence in 1947–8 were £854 millions[1], rather less than had been estimated in April 1947, although, because of demobilisation, the calendar year 1947 would show a higher figure. Exchequer issues for defence in 1946–7 were £1,653 millions[2] and linear interpolation would provide an estimate of £1,105 millions for 1947. This, however, is too high, because of the diminishing rate of demobilisation, and the Economic Survey forecast will be assumed correct, though it may be slightly too low. This implies that of the total purchases of goods and services £554 millions were for military, £422 millions for other purchases. Exchequer issues for defence in 1946–7, £1,653 millions, implied at least £1,700 millions for the calendar year 1946, or say £1,640 million at national cost. This implies purchases for defence of £1,043 millions[3] and purchases for other Government Consumption of only £60 millions at current national cost. It is, I think, clear from the figures above that some of the purchases classed under ' defence ' in 1946–7 must have been classed under ' other civil votes ' in 1947–8, otherwise it is hard to explain an increase of ' administrative ' purchases from £60 million in 1946 to £407 million in 1947 (both at national cost).[4]

Let us assume that indirect taxes, other than insurance, were borne by military and other services in proportion to the purchase of goods ; and that each type of spending under both headings (military and other) could be revalued by the indices indicated above for government current expenditure of each type.

This then gives total civil costs revalued. For 1944 and 1945 it was assumed that administrative purchases came to £50 millions, this giving by implication the wages and salaries spent on defence (£275 and £254 millions respectively for each year).

These rather high values indicate, as mentioned before, that part of the non-industrial public service outside the service and supply departments was apparently taken to be performing ' services connected with the war '. The sharp rise in the real cost of other Government Consumption in 1946 is due to the fact that in the above calculations no such ' military ' service has been assumed. For example, this treatment implicitly treats Government spending on relief and rehabilitation (including Control Commission work in Germany) as ' non-military '. It may have been differently treated on *Cmd.* 6784. The division of current government expenditure for these two years is then complete, and it can be revalued at 1947 national cost.

[1] Financial Statement (1947–8). [2] Financial Statement (1946–7).

[3] Since H.M. Forces pay came to £512 millions, and wages and salaries of civilians working for the supply departments can be estimated at about £85 millions.

[4] Total Government spending at national cost in current account being £2,411 millions : wages, salaries, forces pay and depreciation and interest totalling £1,368 millions.

We thus have the following estimates of current Government expenditure at fixed national cost.

(£ millions at 1947 national cost)

	1938	1944	1945	1946	1947
Military	488	5,063	4,087	1,723	944
Other Govt. Cons.	771	703	702	872	1,249
	1,259	5,766	4,789	2,595	2,193

(vii) Estimating Imports and Exports at Fixed Prices

The index we need for deflating merchandise import values is one with given year weights, but showing the average price movements from the given year to 1947. 1938 imports, for example, should be deflated by an index of the type $\frac{\Sigma p_{47}\ q_{38}}{\Sigma p_{83}\ q_{38}}$, using the customary notation. What we have in the *Board of Trade Journal* is a series of estimates of values at current prices ($p_{38}\ q_{38}$ and $p_{47}\ q_{47}$), and also a price relative: $\frac{p_{47}}{p_{38}}$. This price relative is strictly itself an index calculated with 1947 weights for each section of the commodity group concerned, but to use this as a 1938-weighted relative for each group will not produce great error. We then have immediately that an estimate of the index number required is:—

$$\frac{\Sigma p_{38}\ q_{38}\ \frac{p_{47}}{p_{38}}.}{\Sigma p_{38}\ q_{38}}$$

This is however an index of c.i.f. prices, whereas what we need here is an f.o.b. index. We have an estimate of the total f.o.b. value of imports (from *Cmd.* 7099 for 1938, and the Balance of Payments White Paper, *Cmd* 7324 for 1947). We can therefore correct both numerator and denominator provided we assumed that:—

$$\Sigma p_{47}\ q_{38}\ (\text{f.o.b.}) = \Sigma p_{47}\ q_{38}\ (\text{c.i.f.}) \times \frac{\Sigma p_{47}\ q_{47}\ (\text{f.o.b.})}{\Sigma p_{47}\ q_{47}\ (\text{c.i.f.})}$$

This is equivalent to assuming that the margin in 1947 between f.o.b. and c.i.f. expressed as a proportion of the latter would be the same if 1938 purchases had been made as was actually the case. This assumption will certainly not cause any great error,[1] since the increased margin depends on broad increases in freight and insurance rates.

Exactly the same procedure was adopted for 1945 and 1946, (it being assumed that the price relative for a group $\frac{p_{47}}{p_{46}}$ could be found by dividing one given price relative $\frac{p_{47}}{p_{38}}$ by another given one, $\frac{p_{46}}{p_{38}}$). Imports for 1944 cannot be deflated because of the lack of data.[2]

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[1] Strictly another source of error in estimating the f.o.b. index is that purhases valued f.o.b. would give a slightly different weighting system in 1938; but the dispersion of errors involved in the weights is so small as virtually to exclude this as a source of error. Another slight source of error is that the f.o.b. value used refers to financial payments not to physical arrivals, but since the volume of imports was not changing rapidly during either of the years used, it is doubtful whether the time-lag between shipment and payment would cause a serious error.

[2] For 1945, the estimates of f.o.b. imports by Barna are used (*L.C.E.S.*, Vol. XXV, p. 38).

The import price indices so found are (with base year weights) :—

Base year (=100)	*1947 (c.i.f.)*	*1947 (f.o.b.)*
1938	267	259
1945	129	135
1946	118	124

The fact that the c.i.f. index is greater than the f.o.b. for a 1938–1947 comparison shows that for that whole period insurance and freight costs increased by more than merchandise prices; while since the end of the war the f.o.b. index is the higher, showing that merchandise prices increased the more rapidly in the past few years.

For invisible imports it is assumed that shipping costs were 200 per cent above 1938 for the post-war years,[1] and film costs 100 per cent, and that payments of property income represented a 50 per cent increased cost (because of higher dividends on the same capital). Government and tourist expenditure overseas was assumed to be subject to a price rise equal to the f.o.b. index. On these assumptions we have the following estimates of imports at fixed (1947) prices :—

	(£ millions)			
	1938	1945*	1946	1947
Visible	2,163	1,215	1,354	1,574
Invisible	524	837	626	531
Total	2,687	2,052	1,980	2,105

* 1945 imports exclude items supplied on Lend-Lease, and the estimates shown here are subject to a rather larger margin of error than is the case for the other years.

For exports essentially the same procedure was followed, except that no allowance had to be made for insurance and freight. The export price indices (with base year weights) are :—

Base Year (=100)	*1947*
1938	239
1945	125
1946	116

To measure the terms of trade we can use the f.o.b. import price index, obtaining a measure of the percentage increase in exports needed to cover increased visible import prices (f.o.b.), (*i.e.* dividing the export price index by the f.o.b. import price index). Calculated in this way we have the following comparisons :—

	Worsening of terms of trade
1938–1947	+8.4%
1945–1947	+8.0%
1946–1947	+6.9%

So far as merchandise prices are concerned it is clear that the turning of the terms of trade (defined in this way) occurred mainly after the end of the war. This is hidden if a comparison is made between the usual (c.i.f.) import prices index and the export price index, because of the sharp rise in shipping costs until 1945 (while goods prices were moving more slowly) and the slower rise of shipping costs than goods prices thereafter.

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[1] See *Economist*, Vol. CLI, p. 469

Re-exports[1] were deducted from total exports, so as to show exports of U.K. products separately (since export targets refer only to U.K. exports). Although a current weighted index cannot conveniently be constructed, inspection shows that re-exports follow export-price movements.[2]

Making the same estimates as previously for the rise in the price of invisible services, we have the following estimates of the real value of exports :

	(£ million)			
	1938	1945	1946	1947
Visible—U.K. products	1,126	425	972	1,066
re-exports	148	66	58	59
Invisible	1,049	318	386	305*
Total	2,323	809	1,416	1,430*

* The fall in invisible exports from 1946 to 1947 was probably due to a rise in invisible imports rather than to an actual export fall.

This method shows an actual fall of 5 per cent in the real value of exports since pre-war. There are two reasons for this. First, because we are dealing here not with the *value* of goods actually shipped but with the *payments* for these goods, and there is some time lag during a period of expanding exports. Secondly, we are using here an approximate 1938-weighted index for deflating (since we are working in 1947 prices). Our implied volume index is :

$$\frac{\Sigma p_{47}\, q_{47}}{\Sigma p_{38}\, q_{38}} \times \frac{\Sigma p_{38}\, q_{38}}{\Sigma p_{47}\, q_{38}}, \text{ which equals } \frac{\Sigma p_{47}\, q_{47}}{\Sigma p_{47}\, q_{38}}$$

The official index, obtained with a current-weighted price index, is :

$$\frac{\Sigma p_{47}\, q_{47}}{\Sigma p_{38}\, q_{38}} \times \frac{\Sigma p_{38}\, q_{47}}{\Sigma p_{47}\, q_{47}}, \text{ which equals } \frac{\Sigma p_{38}\, q_{47}}{\Sigma p_{38}\, q_{38}}$$

Now the exports which have most expanded since 1938 show the smallest price rises. Machinery, *e.g.*, has an index of 197 for 1947 (1938=100). But exports which have fallen in volume show large price rises (*e.g.* ' cotton yarn and manufactures ' whose 1947 index was 362). A current-weighted price index therefore shows a much smaller rise in export prices than a pre-war weighted one.[3] And the implied 1947-weighted volume index shows a much smaller increase in volume than the official one which implicitly uses 1938 prices to compare increases in different commodities, thus attaching more importance to machinery, ships, etc.[4]

We can allocate imports approximately, in order to show the end uses of United Kingdom production as follows. Let us assume that one-half of imports in Board of Trade categories IIC, IID, IIE and IIH; and three-quarters of imports in categories IIIC, IIID, IIIF, IIIG and IIIS end as investment goods for 1946 and 1947, revalued at 1947 prices by the appropriate price relatives published in the *Board of Trade Journal.* For 1938 and 1945 a large proportion of these 'heavy' goods would end as munitions and for these years we can assume that the import content of gross investment was approximately 9 per cent (as it appeared to be in 1946 and 1947). Re-exports were also deducted. Shipping payments were presumed half in respect of exports, while half was added to the f.o.b. value of imports, which were then divided between personal consumption, Government expenditure and exports in proportion to consumer expenditure on purchases of goods, Government expenditure on purchases (both at national cost) and merchandise exports. Films and tourist spending could be allocated directly to consumption and Government expenditure overseas to Government expenditure. Real property income payable to foreigners was offset against invisible exports. Visible imports were divided between 'Defence' and 'Other' Government spending according to their respective sizes as estimated above. Government spending overseas was considered military, except for 1947.

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[1] They were taken from the *Board of Trade Journal* (7.2.48, p. 273) for 1938, 1946 and 1947 ; and from the *Trade and Navigation Accounts* for 1945. Strictly these refer to the value of goods, not to payments received (as do the estimates of total exports).

[2] Vide *B.O.T.J.*, *loc. cit.*

[3] Compare for example the index number of 239 given above for 1947 (1938=100) constructed with current weights to the index number of 223 in the *Board of Trade Journal* (*loc. cit.* p. 276). This index should be distinguished from the export prices index.

[4] The official index would show no change if weighted by 1947 weights, so that by elimination the 5 per cent fall evident here must be due to the time lag between exports and payments.

On these assumptions, the end use of imports was approximately as follows :

	(£ '000 millions at 1947 prices)			
	1938	1945	1946	1947
Merchandise exports (and re-exports) ...	0.61	0.28	0.37	0.45
Personal Consumption	1.74	0.76	0.92	1.07
Capital Investment	0.15	0.06	0.13	0.19
Defence	0.15	0.94	0.56	0.19
Other Government Expenditure	0.04	0.01	0.01	0.21
Total	2.69	2.05	1.99	2.11

These estimates are made not for their intrinsic value (the magnitude of error involved in the implied assumption of equal import content for all non-investment purchases of goods is too great), but for deduction from total expenditure, of which they are a small proportion.[1]

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[1] Strictly they refer to imports actually made, whereas the outlay estimates refer to purchases. However trends in imports are not so marked as to make this time-lag important.

THE ABOLITION OF FOOD SUBSIDIES

The denigration of food subsidies has become only little less fashionable in this country than the demand for a cut in investment and for the abolition of controls. Their elimination or at least substantial reduction is proposed on the grounds that:

(*a*) they represent a wasteful form of social service because the purchase of the subsidised commodities is said to be a bad index of comparative needs, and

(*b*) they misdirect productive resources towards food (and other mainly agricultural commodities) and therefore towards an increasing cost industry. In addition, so far as this country is concerned, most of the primary products needed for the production of the subsidised final product, or the primary products consumed directly, represent imports;

(*c*) they encourage waste.

The amounts saved should, in this view, be either used to reduce the inflationary pressure, or used to decrease taxation most inimical to incentive (*i.e.* direct taxes). Some advocate (as *part* offset) an increase in family allowances and old age benefits. It is implicitly assumed that subsidies represent a transfer from the better-to-do to the worse-off. Even when it is admitted that times are not normal and that the subsidised items are rationed—hence no misdirection of productive effort can take place—their continuation is acquiesced in only grudgingly and only because it is feared that their abolition would lead to renewed wage demands. The implication is, of course, that trade unions would be unreasonable to demand wage adjustments, despite the increase in the cost of living, and must be humoured.[1]

In the present paper the argument will be put forward that subsidies to the price of necessities, *e.g.* including clothing and possibly also housing, represent not merely an essential weapon in the present not unsuccessful fight against the world-wide inflationary movement, but might in the most 'normal' times play an essential part in the economic policy of a mixed full employment economy. Not merely might subsidies provide an effective method of guaranteeing an—increasing—national basic minimum, especially in conjunction with measures calculated to organise the production of cheap mass-produce articles otherwise not accessible to the public. They might, what is more important, provide a buffer for an economy at full employment, depending on international trade in a world currency in which 'lapses from full employment' occur, to absorb inflationary and deflationary shocks by immediate, administrative action, not subject to the delays and the creation of special vested interests with which other social services are afflicted.

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[1] Professor A. C. Pigou, The Food Subsidies. *Economic Journal*, June 1948, p. 102–109. Professor J. E. Meade, *Planning and the Price Mechanism*, pp. vii and 40–42.

1. The Present State of Subsidies

The global cost of subsidies in this country since before the war has been as follows:

1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
36*	40†	70‡	130‡	160‡	170‡	218*	262*	337*	442*

* *Cmd.* 7371. † *Cmd.* 6784 corrected by *Cmd.* 7371. ‡ *Cmd.* 6784.

The most recent detailed statement on the distribution of subsidies to food prices shows the following items:

In addition £22.0 millions were spent on the National Milk Scheme, £8.5 on Milk in Schools and £7.4 millions in other welfare foods. The subsidies on home produce including imported foodstuffs represented 60.1 per cent of the total, Empire produce 28.7 per cent, and foreign produce 11.2 per cent.[1] Further information was given recently[2], though not subdivided by commodities, on the amounts, which had increased in the meantime to an annual rate of roughly £470 millions.

	£ millions
Imported food	188.1
Imported feeding stuffs	65.9
Home-grown food	191.6
Acreage payment	17.5
Fertiliser subsidy	8.3
	471.4

Subsidies to British agriculture were subdivided as follows:—

	*£ millions**
Animal feeding stuffs	6.65
Land and field drainage and water supply grants	1.95
Grants for ploughing up grassland	3.95
Pests control	0.31
Marginal production	0.61
Hill sheep and cattle	5.06
Hill farms	0.81
Lime	4.00
Artificial insemination service	0.05
Calf rearing	6.50
Grass conservation	0.06
Agricultural Disaster Fund	0.01
Concentrated pig food	0.46

*Economic Secretary to the Treasury, *Hansard*, July 27th, 1948.

Up to the end of last year the Government subsidised the following industries:

	*£ millions**
Civil Aviation	7.66
Iron and Steel	7.50
Cotton Spinning	1.50
Canals and canal carriers	0.81
Aluminium	0.75
Coastal shipping	0.71
Coal stocking	0.35
Watch-making and jewel manufacture	0.32
Magnesium	0.25
Ferro-chrome	0.10
Herring industry	0.10
Fuels, oil and kerosene	0.03
	20.01

*Chancellor of the Exchequer, *Hansard*, Nov. 18th, 1947.

[1] Minister of Food, Hansard, July 20th, 1948.

[2] Economic Secretary to the Treasury, *Hansard*, July 27th, 1948.

Many of these schemes have been discontinued. The iron and steel industry are to receive roughly £22 million in the current financial year according to present programmes.[1] About £0.1 milllion is the cost[2] of the flax subsidy.

It is seen from these statistics that an appreciable part of the subsidies is used to stimulate British agriculture, despite its handicaps, to maintain or increase production without an increase of the price to the consumer. These latter payments are only to some extent discriminatory in character, calculated mainly to benefit marginal land. It is not known how much of the subsidy covers the excess price paid to British agriculture over prices at which the food could be obtained abroad. In general[3] the policy of the Ministry of Agriculture was to fix uniform prices, thus giving very high rates of profit to the owners of well-managed and well-situated or good quality land. In so far as subsidies are paid with this purpose, the criticism of the subsidy, if any, should properly be based on considering whether increased prices in the industries concerned, especially agriculture, evoke increased effort or the reverse. It may well be that in the anxiety to substitute home production for imports the Government has gone too far in increasing prices to producers with a consequent increase in inefficiency rather than effort. But the restoration of ' free ' markets in these products would (if imports were unchanged) have even further raised prices to the consumer with even sharper efforts in this direction. This is a highly important problem, the investigation of which by agricultural economic institutes is long overdue. It has nothing to do, however, with the usual criticism of subsidising essentials. It might be added that such investigations should be undertaken even if it were admitted that subsidies to marginal land in Britain are economically advantageous, in so far as the decrease in import requirements, and thus of the need to sell exports, turns the terms of trade in favour of this country, or prevents their deterioration. by more than the cost of the subsidy.

Leaving special subsidies and the implications of agricultural policy on one side, it might be estimated that total payments now represent almost £10 per head of the civilian popultion per annum and their abolition would increase the family budget of four persons by some 15s. a week.[4] According to the budget statement last autumn[5] the subsidies were to have been stabilised at £392 million, by abolishing subsidies on leather, clothes, cotton and wool, with a saving of some £33 millions. Partly in consequence of this action, partly because of the sharp further increase in import prices, the cost of living index rose (June 1947=100) from 101 in October 1947, to 110 in June 1948 (it declined subsequently to 108 in July). The increase in food and clothing prices was especially marked, the former from 100.6 to 113.5, the latter

[1] Ministry of Supply, *Hansard*, July 20th, 1948.

[2] Economic Secretary to the Treasury, *Hansard*, Sept. 24th, 1940.

[3] Acreage payments are discriminatory. Unfortunately in many cases no conditions are attached to these payments ensuring optimum utilisation and effort.

[4] On the basis of a statement of the Chancellor of the Exchequer, *Hansard*, Nov. 4th, 1947, including the recent increase.

[5] Chancellor of the Exchequer, Budget speech *Hansard*, Nov. 12th, 1947.

from 101.6 to 108.0 respectively in the same period.[1] Drink and tobacco increased by 8 per cent as a result of the increase in indirect taxes. The consequent pressure on real wages was sufficient to endanger the policy of wage stabilisation initiated last winter.

It is difficult to estimate the consequence of the abolition of the subsidies on the cost of living. As is seen in Table 2, a large part of the subsidies is concentrated on bread and meat. The rise in prices would depend on whether or not ' free markets ' would be restored[2] (*i.e.* auctions instituted in the case of imported goods) to bring the demand and supply in equilibrium without Government intervention. In this connection it may be pointed out that in free market economies the price of meat at the moment is much higher than the difference accounted for in the British price by the subsidy. The abolition of subsidies to bread or potatoes, on the contrary, might well reduce the demand for other costlier foods. In any case in present conditions the demand for an increase in wages would probably be overwhelming. We shall now turn to some of the arguments put forward in favour of their abolition.

2. The Source and Effects of the Subsidies

It has been suggested, as mentioned above, that subsidies are paid out of direct taxation, thus representing not merely a transfer from the better-to-do to the worse-off, but also implying a strong disincentive effect.[3]

Whether or not a particular expenditure is carried by direct or indirect taxation is impossible to say (except historically at the moment of the imposition of a new revenue for a particular purpose). And when both expenditure and taxation have changed so violently as in Britain since 1939 such speculation is really pointless. It is permissible, however, to ask whether the *ratio* between the yield of direct and indirect taxes has altered so violently that (with due regard to the expenditure side) there is a presumption in favour of attributing the incidence of the burden to one or the other class of taxpayer. This is certainly not the case in Britain. While direct taxes increased from £461 millions in 1939 to £1,663 millions in 1947, indirect taxation increased from £391 millions to £1,435 millions, *i.e.* in almost identical proportion. Tobacco and drink (beer) duties increased by £706 millions, *i.e.* almost £300 millions more than the cost of subsidies before their recent increase.[4] It is at least hazardous to come to any hard conclusions on the basis of these figures. Indeed we might say with equal right that the ' semi-luxuries ' of *all* classes are taxed to support necessities. In so far as there is a redistributive effect, it results in a burdening of the better-to-do, or of the improvident, of the lower income classes in favour of the more indigent or larger families. This

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[1] This weakens the argument for abolishing certain subsidies because they affect items considered not quite essential, *e.g.* tea or bacon. The subsidy policy must be judged as a measure to stabilise the price of certain categories of supplies entering into the family budget.

[2] *i.e.* rationing and price control abolished.

[3] Prof. Pigou, *Economic Journal, ibid.*

[4] *Cmd.* 7371. Appendix II, Table 14, p. 28.

Distribution of Food Subsidies

	Unit*	Subsidy* per unit (d.) Dec. 1947	Estimated* annual subsidy (£ mill.) Dec. 1947	Total annual expenditure 1947 (£ mill.)	Estimated† annual subsidy (£ mill.) Sept. 1948	Retail Price	Rise in price† if subsidy were removed	per cent rise in price	Points rise in the retail index of food
Bread } *b* ...	3½ lb.	5	52.3	324	63.7	9d.	5¾ per 3½ lb. loaf	63.9	7.75
Flour }	7 lb.	11¼	35.9		37.1		13 ,, 7 lb.	74.3	1.20
Shell Eggs	doz.	24¾	27.1	261	20.0	3/–	15 ,, doz.	41.7	2.59
Cheese	lb.	11¾	22.5		18.8	10d.	12¾ ,, lb.	127.5	1.83
Butter	lb.	11	24.0		36.8	1/4	15½ ,, lb.	96.9	5.29
Carcase meat	lb. (av.)	4¼	61.1	310	60.2		4¼ ,, lb.	various	4.36
Bacon and ham ...	lb.	10	17.3		15.4		9¾ ,, lb.	36.8	2.53
Sugar	lb.	2	27.0	162	19.7	5d.	2¼ ,, lb.	45.0	1.47
Margarine	lb.	2¾	7.1	61	15.2	9d.	4½ ,, lb.	50.0	0.86
Lard	lb.	9¼	1.6		0.3	1/-	11½ ,, lb.	95.8	2
Compound cooking fat	lb.	1¾	1.0		2.7	9d.—1/–	3¾ ,, lb.	31.3	0.45
Tea	lb.	5¾	9.0	89	17.1	3/4—3/8	10½ ,, lb.	?	?
Potatoes *b*	7 lb.	2¼	19.8	246	18.6		2½ ,, 7 lb.	20.8-23.8	0.97
Milk	Quart	1½	37.5		37.5	10d.	1¾ ,, quart	17.5 (*a*)	1.77
Total ...			343.2	(1,995)‡	363.1‖				

* Minister of Food, *Hansard*, Dec. 1st, 1947. † Economic Secretary to the Treasury, *Hansard*, Sept. 24th, 1948.

‡ Total expenditure on food.

‖ There was a net profit on other foods equal to £4.4 millions as against £2.6 million in the previous year.

[1] As long, moreover, as rationing is maintained this argument is in any case fallacious.

(*a*) Full price of milk only. (*b*) Including acreage payment.

follows from the fact that the rich do not consume the semi-luxuries taxed more than in proportion to their income.[1]

It might be argued, that even if the relative share of indirect taxes remained unchanged, the distribution of net incomes has undergone a fundamental alteration in favour of the lower income groups. The implicit conclusion drawn is that the present distribution is in some way ' abnormal '. There is no reason, however, to regard the 1938 distribution of net income as in any way a desirable norm.[2] Indeed even if further sacrifice should become necessary in Britain, that sacrifice might have to be extracted mainly from those higher income classes who can still bear it more easily than the poor. In theory economists—even those who do not believe that equality between men can be taken as a basic *economic* assumption—welcome a more even distribution of the national income. It is regrettable that these sentiments are lost sight of when practical measures are discussed.

In this connection it is argued that the continued taxation of higher incomes at present rates constitutes a strong disincentive. In practice the development of production in Britain has shown that other factors, especially deficiency of demand and the consequent risk, tend to influence progress more detrimentally than high taxation.[3] I have argued in the BULLETIN[4] and elsewhere[5] that it is impermissible to analyse the effect of taxation on marginal income without taking into account the individual situation of the taxpayer. In certain circumstances high income taxes might increase rather than depress the incentive to effort. At any rate the method of direct taxation can be altered to combine redistribution with a neutral effect on incentive.

Those who wish to abolish food subsidies at least implicitly rest their case on the assumption that the satisfaction of *basic* needs only can serve as an incentive to effort, *i.e.* the incentive could only be increased by cutting real income of the lower income classes. Otherwise subsidies to necessities financed out of indirect taxes on semi-luxuries could not be objectionable. Yet no-one has claimed that an *increase* in upper-class income will act as a *disincentive*, indeed the opposite is argued with great vehemence. While some difference in the consuming and saving habits and in the arduousness of the work between diverse occupations exists, hence in the marginal willingness to work, such extreme dichotomy can hardly be justified not even by reference to the incidence of direct taxes on marginal (rather than average) income. As the standard of life rises and productive methods are improved, the capacity to consume semi-luxuries becomes a sufficient incentive to work.

[1] Cf. T. Barna, Redistribution of Incomes through Public Finance in 1937. Oxford, 1945.

[2] Prof. Pigou, *ibid.*, p. 207.

[3] The rate of investment in terms of the national income has considerably increased, since before the war. The expansion of production after the last war was very much quicker than that after the first world war, despite the much greater losses suffered by Britain.

[4] Taxation and Investment, BULLETIN 1946,

[5] The Burden of the National Debt, Economic Journal, 1945.

3. Subsidies and Social and Economic Policy

It has been suggested that subsidies represent a wasteful form of social service because (*a*) they encourage the waste of the subsidised article, and (*b*) they are not an accurate index of need. To illustrate this latter point the case of bachelor millionaires' undue gain is often mentioned.

Such objective studies as we possess do not support the former argument. It is notorious that the wastage and irrational use of food was very great in the lowest income classes in Britain before the war. The problem is an extremely serious one, but it can be tackled by education only. The food subsidies, in so far as they brought certain important foods within the consuming orbit of the lower income classes, have very much contributed to this educative process. As long, moreover, as rationing is maintained this argument is in any case fallacious.

If by paying subsidies on rationed necessities they are brought within the consuming power of all, irrespective of income, and if the rations are established on the basis of physiological need, the subsidy will represent an excellent method of distributing scarce supplies according to need and not according to the power of the purse. This method will, moreover, not result in a ' misdirection ' of resources as demand cannot increase beyond the ration. The consumption of necessities will vary with the size of the family only, and not with the size of income. It must be admitted, however, that methods which would discriminate against the better-to-do would be a ' cheaper ' method to sustain need. As against this, the subsidies have very important advantages. The fraction by which the better-to-do benefit from them is very small. On the other hand, equality in the consumption of these necessities (or the increase of purchasing power over other goods proportionately to the need of the household) is accomplished without means test or other, less humiliating but bureaucratically complicated, individual schemes. The strengthening of the feeling that, at any rate so far as necessities are concerned, substantial equality has been accomplished might not be regarded as an *economic* gain, but it is a vital gain indeed. In view of the international economic position of Britain, it would seem to be rash to assume that the absence of rationing of the costlier necessities will be ' normal ' in any future which we might profitably contemplate,[1] especially because of the probability of relative shortage of food, and because the restoration of the freedom to purchase any quantity to the rich can hardly be coupled with measures depressing the consumption of the poor below physiological need. In any case there are necessities, *e.g.* bread and potatoes, the income and price elasticity for which is low, and which could therefore be safely subsidised even if unrationed, provided feeding to animals was prevented. Alternatively, it would be possible to make use of the system introduced in the United States during the 1930's for the unemployed, and provide a limited amount of necessities at low (subsidised) prices either to all, or to certain categories, and leave the excess demand 'free', or even subject it to a tax. Subsidies can in this way powerfully reinforce a policy of economic stabilisation by creating an atmosphere of confidence.

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[1] Especially because of the need for a speedy expansion of our productive capacity, and the demand for imports thus entailed.

This fact becomes even more important if we reflect that in a mixed economy at full (or even at ' high and stable ' level of) employment, the bargaining position of trade unions is very strong. Its reckless use would certainly break any hopes for stability. Any action which would weaken or rupture the feeling of equality would inevitably tempt such reaction, if not on the part of the leadership of the unions, at least on the part of the rank and file.[1] The feeling of national responsibility on the part of the unions, and of confidence in the Government, is of very recent growth only, and might be shattered by any inimical move. An attempt to enforce incentive to work by ' having to pay more for their food ' could hardly be regarded otherwise, especially if progressive direct taxes were to be reduced to give incentive to the richer classes, and no attempt were made to equalise hardship by squeezing profits by price control. It is noteworthy that if, as is probable, retail prices are fixed on the basis of a proportionate ' mark-up ', the abolition of food subsidies would result in an increase of the absolute amount, and in the share of profits in the national income. It is somewhat odd to expect trade unions to ' enter into arrangement with the Government' not, in those circumstances, to press foroffsetting wage increases ' despite cuts in the food subsidies '.[2]

. Discussion on subsidies—as on kindred topics—habitually disregards the fact that in real life—as against a static model—relative price movements tend to be swamped by general waves. Moreover reactions are not instantaneous, lags might occur which push the system further from that equilibrium level to which it is assumed to tend. Perhaps the most important of the causes of these short-term swings affecting the position are fluctuations in the general wage-level (changes in tariffs, in risk premia, are similar in effect). General wage stability (*i.e.* stability of real efficiency wages) in a mixed economy depends by common consent[3] on some restraint being exercised in collective wage bargains. Such voluntary restraint or voluntary consent to arbitration, towards which we must strive, is only conceivable if confidence were established in social relations. Once this is established, and the stabilisation of a basic minimum is an essential measure in this respect, shocks coming from unstable foreign sources can be neutralised. In this manner a rise (fall) in prices which in an uncontrolled economy might and probably would, unloose an inflationary or deflationary spiral, could be managed by taxation measures. Thus the transmission of undue rises of prices of necessities, which might start an internal cumulative expansion, might be checked by an increase in subsidies counter-balanced by an increase in the taxation on luxuries. An increase in the price of the latter, especially if due to tax measures necessitated by the policy of stabilisation, can hardly be pleaded as a ground for wage increases, *if* an atmosphere of confidence were established. Instead of unemployment and/or a cut in the standard of life of those who can least afford it and are most defenceless, the balance of the system could be ensured by tightening and relaxing the production and consumption of semi-luxuries, especially those which are imported from abroad. The subsidies for the stabilisation of the price of necessities, especially if financed mainly out of taxes on luxuries, is an essential expedient to ensure stability in an unstable world.

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[1] The increased inequality (and the increased availability of luxury goods inescapable in a ' free ' currency) will obviously increase the pressure for higher wages. When attacking rationing the importance of the sense of equality which it gives is usually left entirely out of account.

[2] Professor Pigou, *ibid.*, p. 209. A rising price of necessities, due to the free interplay of market forces, results in profit inflation. Wage demands, under those conditions, are quite justified.

[3] Cf., *e.g.*, Professor Meade *op. cit.*, especially p. 70 Also P.E.P. British Trade Unionism 1948.

So long as shortages prevail and effective demand has to be kept low, subsidies represent the most effective method of maintaining fair shares. A balanced society will always prefer a cut in inessential consumption to that of necessities. Once the period of reconstruction is over, a policy of subsidising necessities ensuring an *increasing* national minimum might well provide, over and above its anti-cyclical function, a means of stabilising effective demand. Thus even when the need for rationing on other grounds has ended, we might well desire to use the expedient for the purpose of social policy.

T. BALOGH.

TABULAR APPENDIX

EDITORIAL NOTE

The following tables illustrate the economic developments in U.S.A. and individual European countries by presenting the trend of production, prices and foreign trade in recent months compared with typical war and pre-war years.

Explanation of symbols :

... the figure is not available.
( ) figures provisional or approximate.
— figure is negligible.

TABLE I. UNITED STATES

Index Nos. 1935–39=100[1]	Monthly Averages 1941	1945	1946	1947	1948 Mar.	April	May	June	July	Aug.
Personal Incomes, bill. $[2]	95.3	171.6	177.2	196.6	205.6	207.4	207.2	212.3	211.5	...
Consumption expenditures, bill $[3] ...	82.3	121.7	143.7	164.4	172.0	...	...	175.1	...	...
Dept. Store Sales—										
Value Index	133	207	264	285	285	306	310	312	315	311
Vol. Index of Farm Marketings[4] ...	116	140	139	147	111	115	118	130	141	...
Employment,[5] millions	36.2	40.0	40.7	42.5	44.6	44.3	44.6	45.0	45.1	45.5
Unemployment, millions	5.0	1.1	2.3	2.1	2.4	2.2	1.8	2.2	2.2	1.9
Building Contr. Awarded—										
Value Index	213	119	266	276	315	315	328	350	369	...
Vol. Index[6]...	183	86	168	...	158	157	160	165	...	...
Ind. Production Index—										
Durable	201	274	192	220	229	217	220	222	219	221
Non-durable	142	166	165	172	177	177	178	179	169	176
Minerals	125	137	134	149	142	147	162	159	153	159
Manuf. Orders—Index[7]	203	189	211	...	257	252	244	265	249	...
Manuf. Inventories—										
Index[7]	158	167	218	261	270	271	274	277	281	...
Wholesale Price Index— ...										
Farm Products	108	169	198	239	245	246	249	258	256	251
Foods	105	134	165	213	220	224	225	230	238	240
All others	110	123	135	166	182	183	184	184	186	188
Cost of Living Index	105	128	139	159	167	169	171	172	174	175
Factory Av. Hourly Earngs., cts. ...	73	102	108	122	129	129	130	132	133	135
Imports. Total Mill. $	279	344	410	478	666	527	549	616	559	...
from Europe, Mill. $	24	...	66	...	99	81	83	...	...	...
Exports, Total Mill. $	427	820	812	1206	1141	1123	1103	1013	1022	...
to Europe, Mill. $	128	...	342	...	409	374	353	...	...	...

Sources: *Bureau of the Census* for Unemployment; *U.S. Department of Commerce* for Income Payments, Consumer Expenditures, Farm Marketings, Manufacturers' Orders and Inventories, and Foreign Trade; *U.S. Department of Labor* for Employment, Prices and Wages; *Federal Reserve Board* for Department Store Sales, Building Contracts and Industrial Production.

[1] All index numbers, except those of prices and of manufacturers' orders, inventories and farm marketings, are adjusted for seasonal variations.

[2] Seasonally adjusted at annual rates. [3] Quarterly figures, seasonally adjusted at annual rates.

[4] The monthly figures are no longer seasonally adjusted.

[5] All employees in non-agricultural establishments, unadjusted figure.

[6] Value Index deflated with the (Engineering News Record) Index of Construction.

[7] 1939=100.

TABLE II. UNITED KINGDOM[1]

IIA. OFFICIAL FIGURES

	Unit	Monthly Averages				1948					
		1938	1945	1946	1947	April	Hay	June	July	Aug.	Sept.
Production of—											
*Coal (weekly av.) ...	Mill. tons	4.4	3.5	3.6	3.8	4.2	3.9	4.2[2]	3.5	3.5	(4.1)[2]
Steel (weekly av.) ...	000 tons	200	227	244	240	294	293	297[2]	232	271	297[2]
Cement	000 tons	643	338	548	580	821[9]	665	675	850[9]	661	...
*Bricks	Millions	650	102	287	378	388	362	384	365	362	...
Passenger Cars	Thousands	28.4	1.4	18.3	23.9	26.3	26.6	36.2[9]	28.0	21.9[9]	...
Comm. Vehicles ...	,,	8.7	10.2	12.2	12.9	11.6	12.6	17.5[9]	13.2	12.2[9]	...
Merchant Vessels[3] ...	Mill. gr. tons	1.06	1.46	1.76	1.94	1.94	1.94	2.04	1.96	1.98	...
Cotton Yarn (wkly. av.)[10]	Mill. lb.	23.7[11]	11.48	12.73	12.73	15.48[2]	14.83	15.35	15.02[2]	...	...
Rayon[12]	,,	8.52	7.09	8.97	9.90	12.40	11.58	12.66	11.94	...	...
Electricity	000 mill. kwh	2.0	3.1	3.4	3.5	3.7	3.5	3.4	3.2	3.3	3.6
Gas (weekly av.) ...	Mill. therm	31.9	39.1	42.4	43.9	45.1	42.0	40.9[2]	38.7	38.5	...
*Perm. Houses[4] ...	Thousands	30.0	0.22	4.12	10.53	17.06	17.71	18.44	17.36	14.57	...
*Employment total[5] ...	Millions	17.9	16.4	17.4	18.6	19.0	19.0	19.1	19.1	19.1	...
*Manuf. Ind.	,,	6.8	6.8	6.6	7.1	7.3	7.3	7.3	7.2	7.3	...
*Manuf. Exports ...	,,	1.0	0.41	1.31	1.53	2.00	2.01	2.01	2.00	2.00	...
*Unemployment[6] ...	Thousands	1688	103	359	256	301	290	274	282	299	...
*Retail sales (weekly) ...	1938=100	100	116	137	155	165	174	174	173	164	...
Wholesale Prices—											
Food and Tobacco ...	,,	100	163	163	169	187	187	189	189	188	186
Ind. Prod.	,,	100	169	178	200	233	235	236	236	235	235
Consumer Goods' Prices[7]	,,	100	153	157	168	...	...	...	...	...	...
Retail Prices	June 1947=100	...	...	...	100[13]	108	108	110	108	108	108
Weekly Wage Rates ...	Sept. 1939=100	...	150	162	168	175	175	176	176	176	...
Retained Imports ...	£ Mill.	77	92	108	149	185	176	177	186	174	169
U.K. Exports	,,	39	33	76	95	126	130	134	146	130.5	131
Terms of Trade[8]	1938=100	100	93	95	94	89	88	87	86	87	...

Sources: Monthly Digest of Statistics; Ministry of Labour Gazette; Board of Trade Journal.

[1] Figures for items marked * refer to Great Britain.

[2] Average of five weeks.

[3] Tonnage under construction at end of period, 100 gross tons and over.

[4] New permanent houses completed by local authorities and private builders.

[5] Including employers and self-employed, but excluding Forces, Auxiliary Services, Civil Defence, Police and private domestic service. All annual employment figures refer to mid-year.

[6] Number of insured workers registered as wholly unemployed or temporarily stopped. From July 1948 onwards, all unemployed persons on the registers of Employment Exchanges. Mid-yearly (mid-July), or mid-monthly figures.

[7] Prices of consumer goods and services calculated from the annual White Papers on National Income and expenditure.

[8] Ratio of export prices to import levels.

[9] Five week period.

[10] Excluding staple fibre, mixed and waste yarns.

[11] 1937.

[12] Excluding staple fibre.

[13] June 17th.

TABLE IIB. DERIVED ESTIMATES

	1946	1947	1948 April	May	June	July	Aug.	Sept.
1. Working-class Cost of Living[1] (1937–8=100) ...	...	161–2[1]	174–5	174	177	174–5	174–5	...
2. Middle-class Cost of Living[1a] (1938=100)	...	178[1a]	190-1	190-1	192-3	191	191-2	...
3. Seasonally corrected Coal Production† (Annual rates mill. tons)	190	197[2]	211[3]	197	209	201[4]		(207)
4. Seasonally corrected Inland Consumption† (Annual rates, mill. tons)	186	184[2]	191[3]	184	189	188	194	(193)
5. Coal Exports and Bunkers (Annual rates, mill. tons)	9	5[2]	15	17	19	20	17	(18)
6. Seasonally corrected Total Consumption (Annual rates, mill. tons) (4+5)	195	189[2]	206[3]	201	208	208	211	(211)
7. Seasonally corrected Coal Stock Changes (Annual rates, mill. tons) (3—6)*	—5	+8[2]	+5[3]	—4	+1	—8[4]		(—4)

† Great Britain. *+ =increase, — = decrease.

[1] See BULLETIN, Vol. 10, p. 140, *et. seq.* 1947 estimate is for mid-June.

[1a] BULLETIN, Vol. 10, p. 225 *et seq.* 1947 estimate is for mid-June.

[2] 1947 Coal statistics are on the basis of a 52-week year, to make them comparable with the others shown.

[3] Adjusted for the early Easter. [4] Averages because of holidays.

Seasonal Correction of Coal Statistics. See BULLETIN, Vol. 10, p. 272.

TABLE III. FRANCE

	Unit	Monthly Averages 1938	1945	1946	1947	1948 Mar.	April	May	June	July	Aug.
Production of—											
Coal[1]	Mill. m. tons	4.0	2.8	3.9	3.8	4.3	4.2	3.8	3.9	3.9	3.5
Electricity ...	000 Mill. kwh	1.5	1.5	1.8	2.1	2.3	2.3	2.3	2.3	2.3	2.2
Steel	Mill. m. tons	518	136	367	479	623	650	597	615	632	607
Cement ...	000 m. tons	296	127	281	321	425	460	456	487	533	500
Comm. Vehicles	Thousands	3.7	2.7	5.2	5.6	8.6	8.7	8.7	8.8	7.5	5.3
Passenger Cars...	,,	15.2	0.1	2.5	5.5	8.0	8.5	7.6	8.9	8.9	5.6
Cotton Fabrics...	000 m. tons	12.1	2.7	8.4	11.2	13.5	13.7	12.0	14.0	10.4	...
Building plans[2] ...	000 cbm.	706	155	413	647	593	452	...	...	...	...
Wagon ldgs. (dly.)	Thousands	41	17	31	35	40	41	37	40	37	34
Unemployment[3] ...	,,	373.6	15.8	15.7	7.4	12.1	12.2	12.6	14.0	15.0	...
Wholesale Prices	1938=100	100	373	648	989	1536	1555	1653	1691	1697	1783
Retail Prices[4] ...	,,	100	393	645	1030	1499	1499	1511	1529	1528	1670
Imports	000 m. frs.	3.8	4.8	19.5	28.9	50.1	57.9[5]	52.7	61.3	(51.5)	
Exports	,,	2.5	1.0	8.5	17.7	33.3	37.4[5]	37.1	44.6	(36.7)	

Source : Bulletin de la Statistique Générale de la France.

[1] Including lignite. [2] In Paris and 98 towns. [3] Unemployed on relief ; monthly figures refer to mid-month.

[4] Retail prices in Paris of 34 articles.

[5] Since April 1948 the foreign trade of the Sarre is included.

TABLE IV. BELGIUM

	Unit	Monthly Averages 1939	1945	1946	1947	1948 Feb.	March	April	May	June	July
Production—											
Total Industry ...	1936–38=100	95	34	80	95	102	107	110	105	96	...
Coal	Mill. m. tons	2.5	1.3	1.9	2.0	1.75	2.30	2.32	2.07	2.29	1.98
Steel	000 m. tons	252	61	190	241	293	327	336	306	231	...
Cement ...	,,	213	54	157	217	255	270	292	301	291	...
Electricity ...	Mill. kwh	466	382	520	601	631	673	651	614	590	...
Textile Ind. ...	1938=100	113	38	92	110	109	116	118	98	108	...
Paper Ind. ...	,,	120	26	109	132	122	156	155	128	136	...
Building Activity[1]	Thousands	2.7	1.1	2.4	3.0	2.8	3.7	4.7	4.3	4.7	...
Unemployment[2]	,,	195	145	67	68	136	95	95	94	105	129
Retail Prices ...	1936–38=100	106	329	334	343	387	393	396	398	397	396
Imports	000 mill. frs.	1.6	1.1	4.4	7.1	6.5	8.3	7.3	7.1	7.5	6.8
Exports	,,	1.8	0.3	2.5	5.1	5.2	5.8	6.7	5.7	6.5	5.5

Source : Institut National de Statistique ; Banque Nationale de Belgique.

[1] Number of units newly constructed and reconstructed (permits). [2] Daily average of registered unemployed.

TABLE V. NETHERLANDS

	Unit	Monthly Averages 1939	1945	1946	1947	1948 Feb.	Mar.	April	May	June	July
Production—											
Coal	000 m. tons	1072	424	693	842	869	953	961	839	915	955
Electricity	Mill. kwh	223	93	225	283	342	337	320	296	293	...
Bricks	Millions	84.1	7.6	45.3	60.0	78.1	81.1	69.1	64.6	80.8	...
Cement	000 m. tons	45.1	21.2	33.6	43.3	47.3	50.0	50.7	37.0	50.8	53.8
Butter	000 m. tons	9	3.2	4.4	4.4	2.3	3.4	5.5	8.1	8.4	8.7
Cheese	000 m. tons	10.1	3.1	5.4	5.4	1.7	3.9	6.8	10.7	10.3	9.5
Unemployed[1] ...	Thousands	235.6	...	53.1	30.7	36.0	26.8	26.4	...	...	...
Retail trade[2] ...	1938=100	113	...	151	209	188	230	249	230	238	...
Cost of living ...	1937=100	102	(176)	(192)	199	202	203	204	203	...	...
Wage rates—											
Industry	1938–39=100	101	131	165	167	174	174	174	...	...	...
Agriculture	,,	100	225[3]	241	...	...	...	...	...	...	...
Imports	Mill. fl.	130	...	197	(356)	387	364	424	396	443	...
Exports	,,	84	...	68	(158)	189	189	206	226	243	...

Source : Centraal Bureau voor de Statistiek ; Rotterdamsche Bankvereeniging ; United Nations, Monthly Bulletin.

[1] Registered wholly unemployed excluding public relief workers.

[2] Value of turnover of department and chain stores. [3] December.

TABLE VI. DENMARK

Index Nos. 1938=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 March	April	May	June	July	Aug.
Production											
Industrial[1] ...	Index	105	74	101	112	124	124	123	121	120	120
Animal prod.	,,	101	68	76	75	66	70	74	80	71	62
Butter	000 m. tons	15.2	11.0	11.7	10.4	8.6	9.9	12.8	12.6	11.8	10.6
Meat (pork)	,,	27.4	15.1	16.3	16.9	17.1	14.4	13.8	18.0	13.3	10.5
Electricity[2] ...	Mill. kwh	69[3]	76	98	115	125	125	122	119	111	131
Wholesale prices ...	Index	105	190	188	207	218	221	226	229	230	231
Cost of living ...	,,	101	159	158	163	...	164	...	...	167	...
Imports	Mill. kr.	145	58	237	257	226	311	224	283	310	260
Exports	,,	132	75	135	193	240	198	203	199	226	201

Source : Danmarks Statistics, Statistiske Efterretninger ; United Nations, Monthly Bulletin.

[1] Revised Series. [2] Consumption. [3] 1938.

TABLE VII. NORWAY

Index Nos. 1938=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 March	April	May	June	July	Aug.
Ind. Prod.... ...	Index	107	69	100	115	129	130	139	134	80	...
Electricity gen. ...	Mill. kwh	851	820	938	938	936	1017	1069	1044	929	...
Retail turnover	Value Ind.	105	120	182	223	215	237	...	...	...	...
Wholesale prices ...	Index	116[1]	116[1]	173[1]	178[1]	180	181	181	182	182	181
Cost of living ...	Index	102	156	159	160	160	160	161	159	159	158
Imports	Mill. kr.	114	100	183	318	273	311	263	308	269	...
Exports	,,	67	27	100	151	153	183	181	181	144	...

Source : Central Bureau of Statistics.

[1] December.

TABLE VIII. SWEDEN

Index Nos. 1939=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 Jan.	Feb.	March	April	May	June
Ind. Production*...	Index	100	...	124	126	126	128	130	132	130	130
Ind. Employment[1]	,,	100	113	118	118	117	119	119	119	119	...
Unemployment[2]	Per cent	9.2	4.5	3.2	2.8	4.4	4.2	3.8	2.3	1.7	1.9
Steel Production	000 m. tons	99	100	101	99	103	107	104	119	96	104
Cost of living ...	Index	100	139	140	144	...	...	151[3]	...	...	152[3]
Imports	Mill. kr.	208	90	281	431	418	369	378	463	405	423
Exports	,,	157	146	211	268	287	232	226	321	344	355

Source : Index, Svenska Handelsbanken ; Quarterly Review, Skandinaviska Banken ; United Nations, Monthly Bulletin.

* Revised series (adjusted for seasonal varation).

[1] Including mining. [2] Percentage of trade union membership. [3] Refers to end of quarter.

TABLE IX. SWITZERLAND

Index Nos. 1938=100	Unit	Monthly Averages 1938	1945	1946	1947	1948 Feb.	Mar.	April	May	June	July	Aug.
Employment—												
All Industries ...	Quart. Index	100	110	123	134	...	136[6]	...	...	137[7]	...	...
Building	"	100	89	108	119	...	117[6]	...	...	142[7]	...	...
Metal Ind. ...	"	100	122	137	147	...	152[6]	...	...	152[7]	...	...
Chemical Ind. ...	"	100	130	157	174	...	179[6]	...	...	179[7]	...	...
Cotton	"	100	76	87	97	...	100[6]	...	...	101[7]	...	...
Food Ind. ...	"	100	106	120	129	...	132[6]	...	...	133[7]	...	...
Electricity gen.[1] ...	Mill. kwh	448	666	696	651	715	680	681	721	775	816	...
Building permits :												
New Flats... ...	Numbers	703	751	1043	1261	898	700	1318	597	852	1152	...
Factories[2] ...	"	93	167	267	281	...	225[6]	...	...	238[7]	...	...
Tourism[3]	Thousands	630	264	506	703	547	487	459	577	799	1171	...
Cost of living[4] ...	Index	100[5]	152	151	158	163	162	162	163	163	163	162
Imports	Mill. frs.	134	102	285	402	419	472	499	459	477	380	345
Exports	"	110	123	223	272	239	283	289	268	289	280	253

Source : Schweiz. Nationalbank ; Departement Fédéral de l'Economie Publique.

[1] Public power stations. [2] Including extensions and structural changes.

[3] Number of nights spent by foreign tourists in Swiss hotels and sanatoria (000).

[4] August 1939=100. [5] August 1939.

[6] Monthly average, 1st quarter. [7] Monthly average, 2nd quarter.

TABLE X. ITALY

	Unit	Monthly Averages 1939	1945	1946	1947	1948 Feb.	March	April	May	June	July
Electricity Prod.	000 m. kwh	1.3	0.9	1.3	1.5	1.4	1.5	1.5	1.7	1.8	1.8
Steel Prod. ...	000 m. tons	190	33	96	142	164	183	184	181	194	...
Coal Imports ...	000 m. tons	1100[1]	...	353[2]	749	403	813	452	564	809	(855)
Unemployment ...	Millions	...	...	1.7	2.0	...	2.3	2.4	...	...	...
Cost of living ...	1938=100	...	...	...	4575	4791	4919	4937	4874	4835	4601
Imports[3]	000 m. lire	0.9	...	7.6	34.5	52.9	67.1	65.0	81.1	...	...
Exports[3]	"	0.9	...	5.4	17.1	32.3	38.8	44.8	41.7	...	...

Source : Instituto Centrale di Statistica ; United Nations Monthly Bulletin of Statistics.

[1] Average 1935, 1937 and 1938. [2] Average April–December. [3] Excluding silver specie.

TABLE XI. FINLAND

Index Nos. 1939=100	Unit	Monthly Averages 1939	1945	1946	1947	1948 Feb.	Mar.	April	May	June	July
Production—											
Home Ind.[1] ...	Index	100	56	75	91	...	...	...	...	...	...
Export Ind.[1] ...	,,	100	51	69	84	95	90	109	99	100	...
Electricity ...	Mill kwh	259	247	244	233	219	233	237	231	217	215
Wholesale Prices	Index	100	365	571	690	864	898	902	991	921	940
Cost of living ...	1938-9[2]=100	101	282	450	584	753	761	765	765	773	809
Imports	Mill. Mark	631	568	2023	3914	4285	3589	4944	6026	7005	5940
Comm. Exports ...	,,	643	436	1921	3769	3354	2987	4490	3696	5201	6356
Reparation Deliv.	,,	...	685	731	867	765	895	1129	1356	1879	...

Source: Unitas, Quarterly Review of Trade Conditions in Finland; Monthly Bulletin, Bank of Finland.

[1] Volume index. [2] August 1938—July 1939.

TABLE XII. POLAND

	Unit	1938[1]	Monthly Averages 1945	1946	1947	1948 Jan.	Feb.	Mar.	Apr.	May	June
Production—											
Coal	Mill. m. tons	17.1	2.0	3.9	4.9	5.7	5.2	5.8	5.8	5.9	5.8
Pig Iron	000 m. tons	74	21	61	72	86	85	95	94	94	92
Steel	,,	120	45	102	132	155	147	154	164	148	...
Cement	,,	143	33	117	127	67	106	169	168	190	191
Glass	,,	2.1	...	...	5.1	6.3	6.1	5.7	4.8	5.6	5.6
Paper	,,	17.1	3.4	12.4	17.2	19.2	19.8	20.5	20.6	16.6	21.1
Electricity	Mill kwh	319	418	476	551	639	605	629	...	...	...
Cost of living[2]	Index[2]	1	...	95	123	133	134	135	132	132	133

Source: Central Statistical Office of the Republic of Poland.

[1] Pre-war frontiers.

[2] Retail prices of goods and services purchased by a wage-earner's family in Warsaw city (prices of rationed articles are not included). Base 1938=1.

TABLE XIII. CZECHOSLOVAKIA

	Unit	Monthly Averages 1939	1945	1946	1947	1948 Mar.	April	May	June	July	Aug.
Production—											
Coal	000 m. tons	1398	952	1178	1351	1583	1575	1372	1523	1405	...
Electricity ...	Mill. kwh	334	341	464	555	629	597	574	586	528	...
Pig Iron ...	000 m. tons	134	48	80	119	140	143	139	136	141	...
Wholesale Prices[1]	Mar. 1939=100	...	165	288	302	310	309	311	313	320	...
Cost of living[2] ...	1939=100	100	168	305	295	293	294	295	297	293	...
Imports	Mill. Kr.	915	76[3]	853	2388	3446	4274	3225	2890	3109	2439
Exports	,,	996	49[3]	1195	2384	2859	3014	3383	3228	3088	2545

Source : Zivnostenka Banka, U.N. Monthly Bulletin. Statistics Bulletin of Czechoslovakia.

[1] Bohemia, Moravia and Silesia ; on the first day of each month.

[2] At Prague (March 1939=100) ; in the first week of the month. [3] May to December.

TABLE XIV. HUNGARY

	Unit	Monthly Averages 1939	1945	1946	1947	1948 Feb.	Mar.	April	May	June	July
Production—											
Hard Coal ...	000 m. tons	192	58	60	88	99	104	112	79	91	110
Lignite ...	,,	784	298	469	646	780	767	660	617	713	...
Pig Iron ...	,,	34	1	13	25	29	31	32	33	27	...
Petroleum ...	,,	12	55	57	48	39	42	40	40	39	...
Wagon ldgs. ...	Thousands	114	...	47	...	...	...	...	...	...	...
Cost of living[1] ...	1937=100	99	...	...	436	502	504	495	499	450	424
Imports[2]	Mill. fl.	142	...	31	122	199	169	169	163	143	...
Exports[3]	,,	175	...	35	87	117	150	123	124	148	...

Source : Office Central Hongrois de Statistique.

[1] At Budapest. [2] Excluding U.N.R.R.A. imports. [3] Excluding reparation deliveries.

TABLE XV. BULGARIA

Index Nos. 1939=100	Unit	Monthly Averages				1947	1948				
		1939	1945	1946	1947	Dec.	Feb.	Mar.	April	May	June
Industrial Prod.	Index	100	112	115	133	145	129	138	146	149	164
Investmt. Goods	,,	100	88	115	132	110	...	...	...	...	...
Food Ind. ...	,,	100	96	99	81	93	...	...	...	...	...
Other Cons. Ind.	,,	100	118	118	144	160	...	...	...	...	...
Electy. gen. ...	Mill. kwh	22	33	36	40	49	44	47	46	44	45
Wholesale prices ...	Index	100	550	627	714	809	...	...	...	...	...
Cost of living ...	,,	100	509	573	637	669	...	...	...	...	...
Imports	Mill. leva	433	485	1460	1785	3339	3163	3387	4905	3211	...
Exports	,,	505	1033	1245	2044	3558	3421	3065	1977	2078	...

Source : Direction Générale de la Statistique, Bulletin Mensuel (Sofia).

TABLE XVI. GERMANY (BIZONAL AREA)

	Unit	Monthly Averages			1948						
		1936	1946	1947	Feb.	Mar.	April	May	June	July	Aug.
Ind. Prod.[1] ...	1936=100	100	33	38	45	48	50	45	50	61	66
Prod. Goods[2] (Br. Zone) ...	,,	100	36	39	(43)	(47)	(47)	(45)	(49)	...	...
Cons. Goods (Br. Zone) ...	,,	100	21	23	(30)	(35)	(36)	(30)	(32.5)	...	...
Production of—											
Hard Coal ...	Mill. tons	9.7	4.5	5.9	6.4	7.2	7.0	5.9	7.4	7.8	7.5
Steel Ingots ...	000 ,,	1186	207	246	299	343	363	324	378	457	510
Cement ...	,,	663	...	214	269	326	363	375	401	488	512
Potash	,,	49.9	...	26.8	36.1	40.0	41.1	30.6	38.3	42.0	45.2
Cotton Yarn ...	,,	17.4	...	5.2	6.6	7.2	7.6	6.2	7.1	8.1	8.8
Elec. Gen.[3] ...	000 kwh	...	1218	1338	1500	1592	1511	1389	1358	1380	1464
Import arrivals[4]	Mill. $	...	54	61	61	92	126	138	160	134	153
Export deliveries[4]	,,	...	12	19	37	26	51	47	40	47	58

Source : Monthly Statistical Bulletin of the Control Commission for Germany (British Element).

[1] Provisional Index. [2] Incl. investment goods (iron and steel, foundry products, vehicles, building materials, etc.) and producer goods for general requirement (coal, oil, gas. electricity and chemicals).

[3] Generation by P.U. stations. [4] From preliminary survey.

TABLE XVII. AUSTRIA

	Unit	Monthly Averages 1937	1946	1947	1948 Feb.	Mar.	April	May	June	July	Aug.
Production of—											
Hard Coal	000 m. tons	19.2	9.0	14.8	14.5	15.8	14.1	12.8	14.2	14.1	14.3
Lignite	,,	270	200	236	272	281	278	240	273	283	270
Pig Iron	,,	32.4	4.8	23.2	42.5	44.7	45.9	49.2	55.3	55.8	56.1
Steel	,,	54.1	15.6	29.7	46.8	49.4	49.6	42.4	59.2	62.3	60.9
Cement	,,	35.8	32.3	23.5	27.8	40.4	49.6	60.3	73.0	67.1	...
Glass	000 sq. m.	...	...	215	294	370	328	...	...	...	...
Electricity gen. ...	Mill. kwh	152	248	252	268	288	299	355	370	410	440
Cost of living[1] ...	March, '38=100	...	107	211	306	312	310	307	306	303	303
Imports...	Mill. Schill.	121.1	20.9	99.4	175.6	202.3	206.6	178.8	211.7	222.4	...
Exports...	,,	101.4	18.3	70.2	106.9	141.9	144.5	163.5	161.2	173.8	...

Source : Monatsherichte des Oest. Institutes für Wirtschaftsforschung.

[1] In Vienna. One old schilling (1938) = one new schilling (since. 1946).